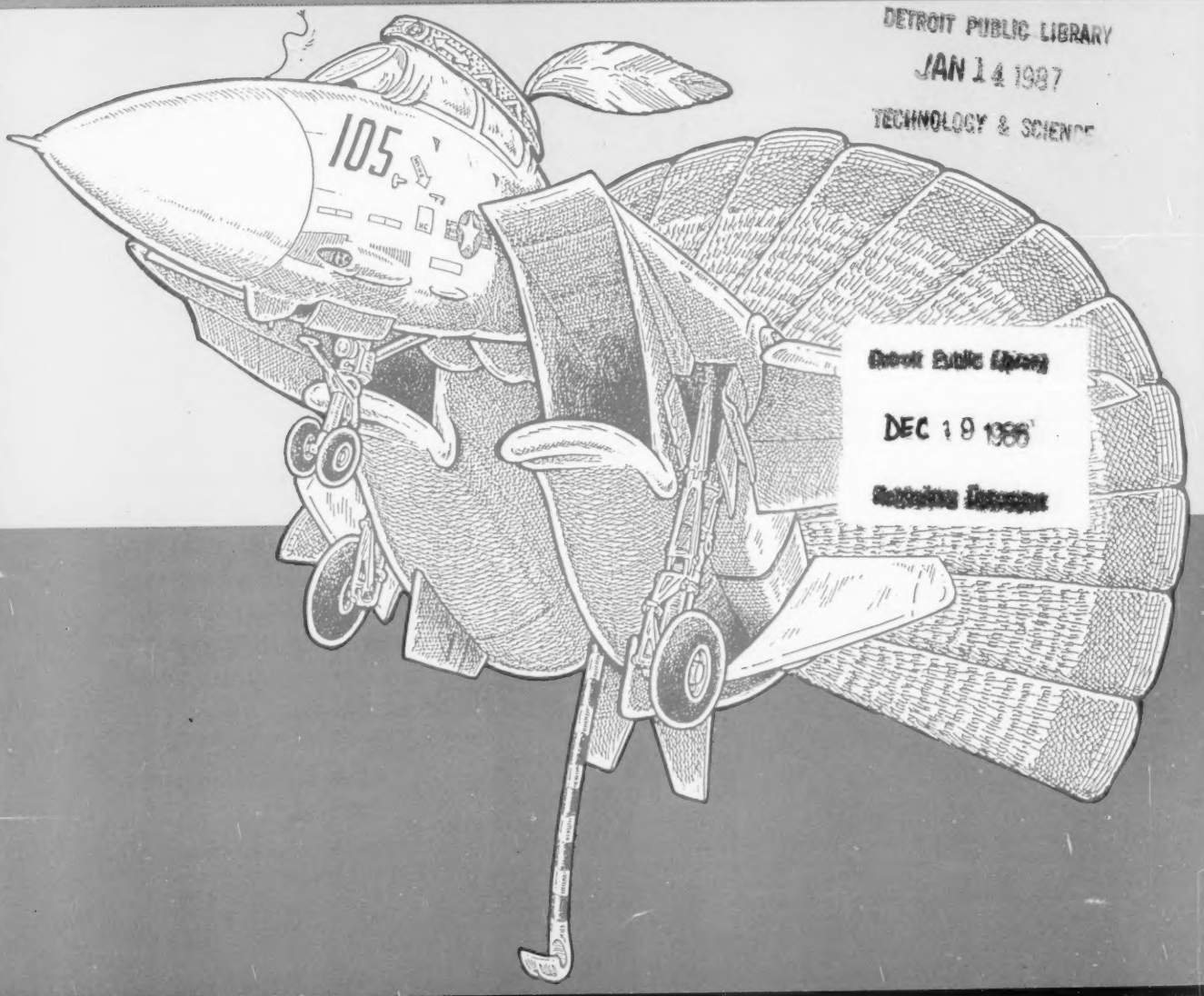
Winter 1986 / The Naval Aviation Safety Review V-32 #5 US NAVY

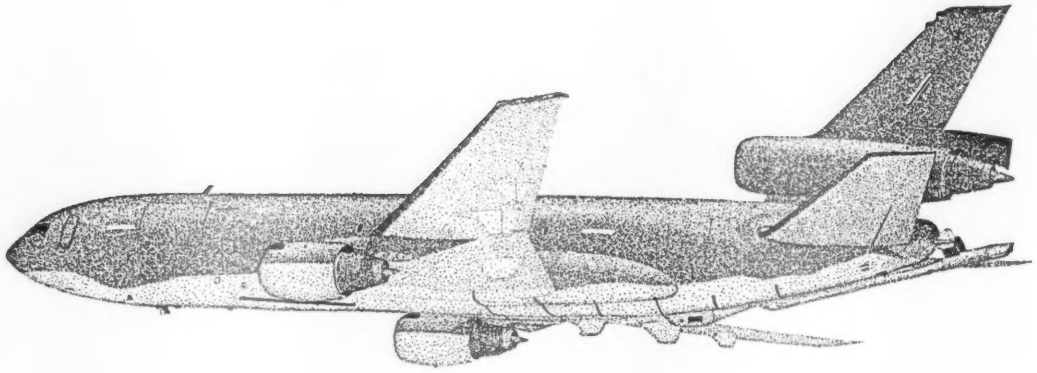
approach

Who wants to be a "Safe Pilot"?

Find some of the answers on page 14.



Fuel



IN this issue, Approach presents stories from several communities with one common denominator – fuel. It is the lifeblood of our flying machines. Nothing in the inventory flies well without fuel. Generally, the higher the performance of an aircraft, the more it glides like a rock. The necessity for fuel planning and management goes without saying.

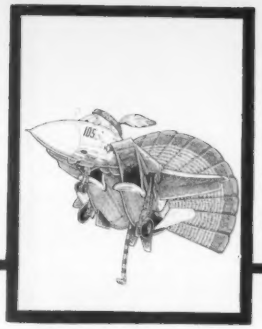
So what happens when you mix a properly planned transatlantic crossing with unforecast weather? Take a look at "Transoceanic Ordeal," this month's lead article and find out. If that story doesn't raise the hair on the back of your neck, report to the nearest flight surgeon.

LCdr. David L. Parsons
Editor

This illustration of a KC-10 tanker is by a new-comer to Approach, Capt. Dennis P. Brooks, USAF. We hope to see more of his work in the future.

inside approach

Vol. 32 No. 5



F-14 "Turkey" cover illustration by Hank Caruso. This was specially commissioned by Approach to fit the F-14's unofficial nickname to the Thanksgiving season.

FEATURES

DEPARTMENTS

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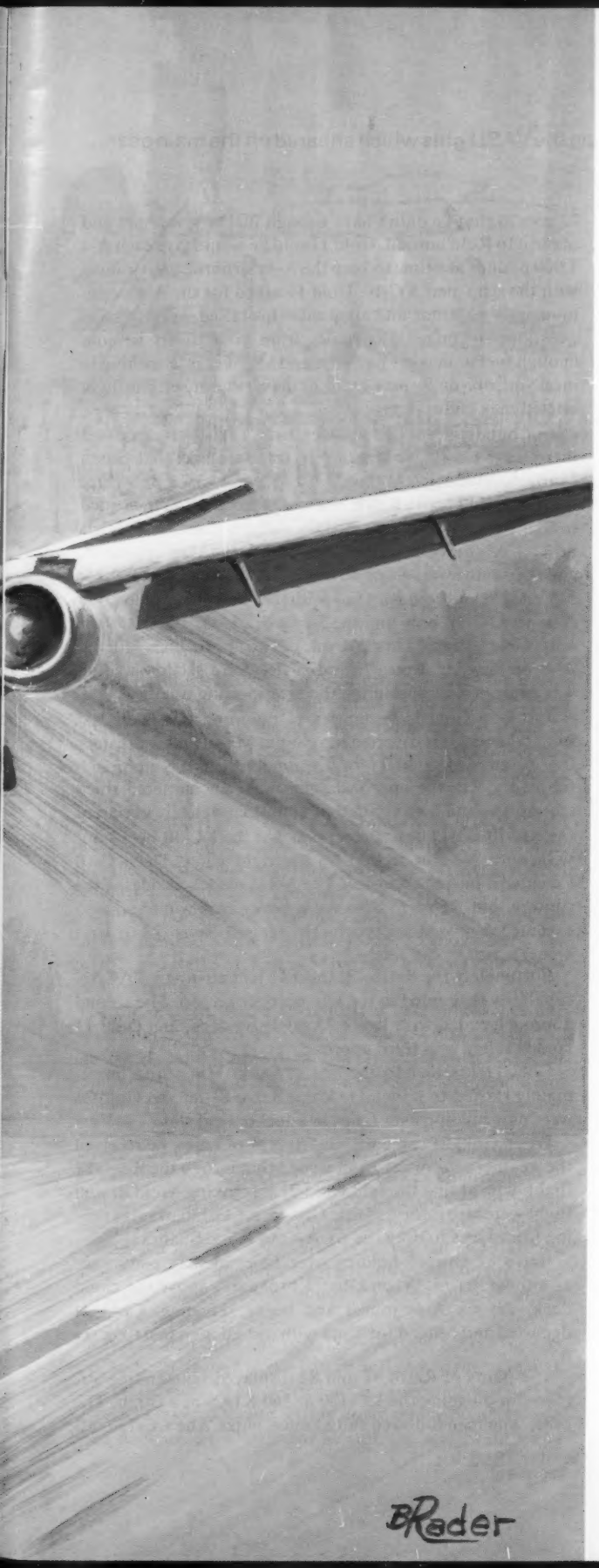


Transoceanic Ordeal

By Capt. Rob Coopman, USMC

OUR squadron was planning a TRANSLANT to Bodo, Norway, via Lajes, Azores, to participate in the Anchor Express Exercise. The original plan was to send 15 A-4s split into five plane cells; each cell paired with one KC-135 tanker. The A-4 cells would launch one hour apart from Cherry Point and join the KC-135s near Long Island, entering the first air refueling track. The KC-135, with five A-4s in tow, would then follow the northern route, tank a second and final time south of Newfoundland, then continue to Lajes.

Fuel planning played a key role. Lajes is one of only five locations in the world designated an "Island Destination," which qualifies it for special weather and fuel planning criteria under Air Force Regulations. These regulations allow a TRANSLANT flight to launch with destination and divert weather forecasts at or above 1,000/2. In effect, your destination is also your alternate, so you don't need the standard 3,000/3. Additionally, the aircraft being tanked must arrive over the island destination with one hour of holding fuel, and the tankers must arrive with two hours of holding fuel. Extra fuel to make the continent would not be available.

Our first TRANSLANT attempt ended with our 15 A-4s diverting off the first air refueling track into Pease AFB in New Hampshire. Eleven of the 15 A-4s were unable to receive fuel due to excessive spray around the probe during linkup with the basket; the reason for the spray was not apparent, and the problem is still being studied. We flew back to Cherry Point to regroup and try again a week later with SAC KC-10s.

The day prior to the new TRANSLANT, a KC-10 instructor pilot from Seymour Johnson AFB gave the squadron a rundown on the KC-10's capabilities which included worldwide communications through a command and control center at Langley AFB. He assured us that the KC-10 would always have the latest Lajes weather. Next, the Aerial Delivery Group (ADG), which was responsible for the movement, gave each TRANSLANT pilot his own computer-generated flight log booklet and strip charts. These booklets were beautifully assembled and included divert criteria for each member of the flight. The combination of the KC-10 brief and the fuel log booklets gave me the same "it's too good to be true" feeling I get when I listen to financial planners. We felt we were in good hands. All we had to do was join up, shut up and hang on.

It was tough to get a good night's sleep with all the excite-

ment of the next day's transoceanic flight and our alarms set for 0130, so I doubt many of the A-4 drivers felt well-rested when we met at 0300 for the weather brief. The forecast weather for Lajes was 4,000/7, and the divert fields were also good. "It looks like a go," the ADG rep said.

The first cell of A-4s, Retro 61-65, launched in the dark at 0500. They joined their assigned KC-10, Gold 11; but unfortunately, three of the A-4s had assorted problems, and the Retro 61 flight diverted into Pease AFB.

Gold 11 elected to stay airborne and pick up the second A-4 cell, Retro 71-75, which had launched just prior to daybreak at 0545. One of these A-4s went NORDO, so a section returned to Cherry Point. Now, Retro 71, a flight of three, joined with Gold 11 and proceeded to Lajes with a weather update.

Back at Cherry Point, ADG approved the addition of a sixth A-4 to the third cell, which launched as Retro 81-86 at 0715 and joined with Gold 21 as planned but without the extra on-load for the sixth A-4. All members of the Gold 21 and Retro 81 flight also continued without a weather update.

Question: What happens when one KC-10 crew and six A-4 drivers don't check the latest weather update?

Answer: The Lajes weather office starts sending out special amended weather updates forecasting the sort of weather that, if you knew about it, would convince you to divert.

Gold 11 made radio contact with Lajes ATC approximately 200 NM out. The weather was reported as 500 overcast, one mile in fog. Gold 11 detached Retro 71-73 for individual PAR approaches. Gold 11 held 20 NM south of the field while the A-4s attempted their individual approaches.

Gold 11 attempted to contact Gold 21, who was 45 minutes behind with six A-4s, to divert them to Newfoundland. Radio contact was never established. Meanwhile, the Air Wing Movement Control Officer, noting the situation, called a Marine KC-130 crew at the Lajes BOQ and told them to prepare for an emergency launch to save the A-4s. The KC-130 crew was airborne in 40 minutes. Their biggest obstacle was finding the plane on the ramp in the fog.

Just prior to Retro 71-73's approaches, a civilian Boeing 707 executed a missed approach and reported the field zero-zero. Following the Boeing 707, Retro 71 miraculously landed during a momentary break in the weather. The fog was so thick that Retro 71 had trouble taxiing off the runway. The follow-me truck almost ran into him. After Retro 71 shut down, the ADG rep told him he was sorry, but it looked like his two wingmen were going swimming.

Retro 72 and 73 did not break out at decision height and rejoined with Gold 11 for emergency refueling. The ADG Command Center directed Gold 11 and Retro 72 and 73 to divert to Rota, Spain, and meet a strip alert KC-10 launching from Zaragoza, Spain, for refueling en route.

In the climb, Gold 11 figured his fuel and informed Retro 72 and 73 that he didn't have enough fuel to give them and make it to Rota himself. Gold 11 said he would give each A-4 1,000 pounds at a time to keep the A-4s airborne until joining with the strip alert KC-10. Gold 11 asked for the A-4's optimum cruise altitude and airspeed. This raised an interesting question. If you're 1,200 miles from your divert without enough fuel to make it halfway, and a tanker is launching to meet you, do you fly max range or max endurance? The flight elected max endurance.

Two hundred NM east of Lajes, Gold 11 was informed that there wasn't a strip alert tanker en route and that Santa Maria, located 150 NM southeast of Lajes, was the only place to land. Gold 11 with Retro 72 and 73 turned around, headed to Santa Maria, and discussed the options. Santa Maria has no TACAN or VOR, just a published VHF-ADF approach, and the weather was going down. The A-4s had no compatible NAVAIDS and could not talk with the controller because the A-4s were UHF only and the Santa Maria controllers VHF only. Gold 11 agreed to make one or two approaches with the A-4s on his wing. Retro 72 and 73 decided a section landing was appropriate considering the deteriorating weather.

Just after Gold 11 began the ADF approach, a Navy A-3 pilot who had just diverted into Santa Maria and was listening in, advised Gold 11 of an unpublished ILS approach frequency. On the approach, the flight encountered thick clouds, fog and heavy rain that almost completely obscured the KC-10. Just above decision height the KC-10 broke out with both A-4s in section on the right wing. The KC-10 executed a missed approach. The A-4s called their sides of the runway, but Retro 73 detected a heavy crosswind and also executed a missed approach. He advised Retro 72 to land alone, which he did safely.

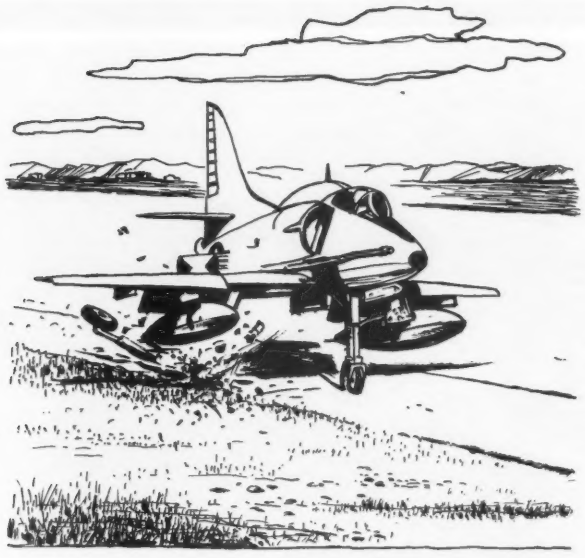
Fortunately for Retro 73, Gold 11 had air-to-air TACAN capability that aided in the join-up once on top. The second approach ended with Retro 73 safely on deck, and Gold 11 landed safely on a third approach.

Gold 11 taxied into the line at Santa Maria and immediately started to refuel. He knew Retro 81-86 and Gold 21 were now holding over Lajes in a fuel-critical state.

When Gold 21 came within 170 NM of Lajes, he received the weather as zero-zero and passed that info to the Retro 81 flight, who at first thought Gold 21 was joking. Gold 21 and flight were also informed that Otis 75, a KC-130, was launching from Lajes to drag the six A-4s to Rota, Spain.

Retro 81 entered holding over Lajes at max endurance awaiting Otis 75. When Otis 75 broke out above the cloud deck, the six A-4s joined and began refueling. Gold 21 departed and headed for Rota with just enough fuel to make it.

The pilots of Retro 81 and 82 displayed outstanding airmanship plugging the KC-130 at 160 KIAS in a climb. The other wingmen followed suit as must-plugs. The KC-130 off-



loaded its entire 30,000 pounds of give-away fuel but everything was not OK. Otis 75 didn't know about the plan to go to Rota and didn't have the fuel to do it. Fortunately, Gold 21 was still monitoring the frequency, so he turned around and rejoined. As a result, Gold 21 no longer had the fuel to make Rota.

Santa Maria ATC passed to the Gold, Otis and Retro flight that Retro 72 and 73 had landed successfully at Santa Maria, and the weather had improved to 600 overcast, 2.4 miles visibility with a 12-knot crosswind.

At this point, Retro 81 decided to split his flight for approaches into Santa Maria. Retro 83, 85 and 86 went with Otis 75, and Retro 81, 82 and 84 joined with Gold 21 to follow the Otis flight.

In the descent, Retro 85 requested two approaches into Santa Maria. Otis 75, however, said he was now fuel critical and asked that the **three A-4s** land on one approach. For the approach, Retro 83 and 86 were on Otis's left wing, and Retro 85 was on the right. During the approach, the flight encountered the same bad weather that Retro 72 and 73 had experienced. About 100 feet above decision height, the flight broke out, and the A-4 drivers called the runway environment in sight. Otis 75 went missed approach. Retro 83 and 86 were in the lead maneuvering for a section landing. Retro 83, who was leading, felt high and close after breaking out and started a rapid descent. He then realized the runway was on top of the cliff ahead, added a lot of power, flattened out and landed safely, as did his wingman.

Retro 85 had difficulty getting separation behind the section, so he 'S' turned to the left, then turned right to realign with the runway. The overshooting crosswind was not in Retro 85's favor. Despite setting down on the numbers with 20-25 degrees left wingdown, he still had a right drift and landed 15 degrees off runway heading. As a result he veered off the runway, hitting the VASI lights which sheared off the right main gear. The pilot stayed with the A-4 until it came to rest on the right drop-tank and then egressed uninjured. However, Santa Maria tower called the runway closed because parts of the landing gear were scattered on the runway. Additionally, the Santa Maria weather had deteriorated to zero-zero.

Otis 75 started its slow flight back to Lajes and managed to break out on approach during a lull in the weather.

Gold 21 and Retro 81, 82 and 84 were becoming dangerously low on fuel. Gold 11, who had been on the deck at Santa Maria, saw the situation clearly: If he didn't launch quickly there would be some A-4s and possibly a KC-10 in the water. So Gold 11 stopped refueling, pulled away the ladders, left two crewmen in Base Ops, didn't pay for the gas, didn't have a clearance, didn't align his INS and made an intersection takeoff in front of the mishap A-4 in near zero-zero weather.

Gold 11 joined and refueled Gold 21 and Retro 81, 82 and 84, saving the day (for the moment). But still, none of the aircraft had the fuel to make Rota. Fortunately, there was now a KC-10 en route from Zaragosa. It was dark by this time, but the joinup was successful, and both of the KC-10s and the three A-4s successfully tanked. This was especially significant because the Retro 82 and 84 pilots had never refueled at night. They all made safe landings in Rota. Retro 81, 82 and 84 set a new record for the longest flight in an A-4: 10.0 hours — and in a dry suit, no less. The day ended with the A-4s in five different locations, but with everyone thrilled that no one was lost.

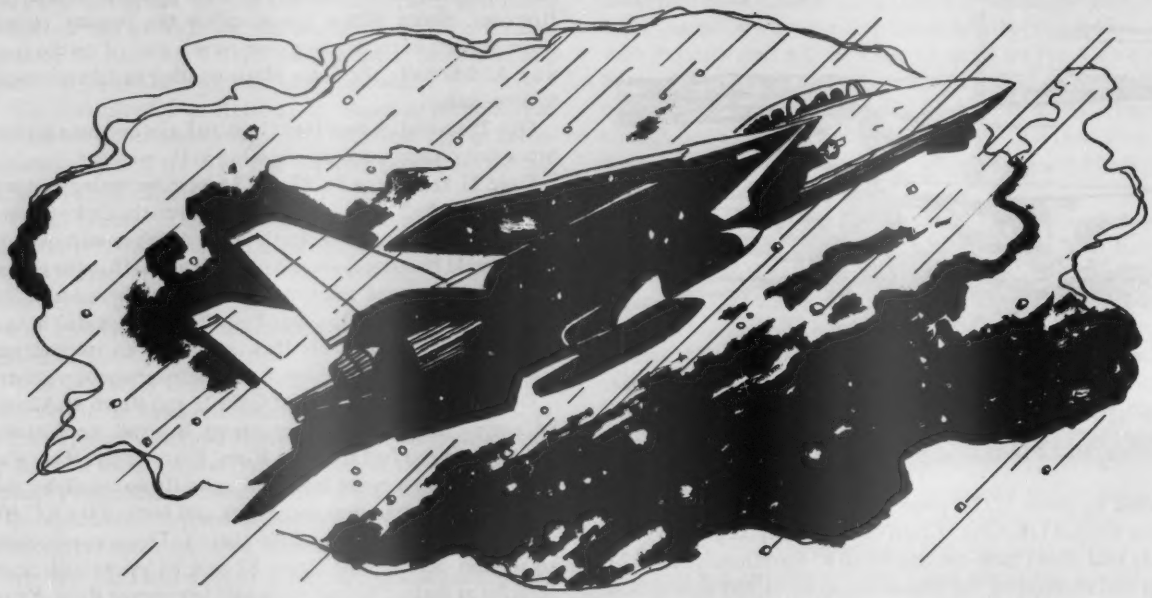
The Anchor Express Exercise was subsequently scrubbed for other reasons, and the A-4 crews never flew to Norway. I think the lessons learned were especially valuable at such a small cost. I expect that nine A-4 drivers, the Otis crew and the KC-10 crews will recount the story more than a few times.

Lessons Learned:

- Trust the wisdom of OPNAV 3710.7, and distrust the term "ISLAND DESTINATION." Make sure the tanker has enough fuel to give you so that you can reach an alternate.
- Always update the weather before it's too late, even if you have to divert.
- When you have the warm fuzzy feeling of over-confidence, re-examine your situation.
- Don't fly to Lajes without the gas to continue to Rota, or have a strip tanker waiting in Lajes.
- Air Force and Marine tanker pilots have the right stuff, as shown by the crews of Gold 11 and 21 and Otis 75. ◄

Whew! This story had the makings of a first class disaster. Obviously, many command decisions were made to avert tragedy, notably by the crew of Gold 11, who gets our Bravo Zulu, as does VMA 223 for sharing this tale. — Ed.

Capt. Coopman flew A-4Ms with VMA 223, the last FMFLANT Skyhawk squadron. He is currently attending law school at the University of Florida and flies A-4s with Marine Air Reserve Squadron VMA 142 at NAS Cecil Field.



Hail Hath No Fury Like a Metro Scorned. Departing Airfield Northwest on the return leg of a cross-country training flight, the F-14 headed south for an intermediate stop at an AFB. The weather brief indicated a slight chance of isolated thunderstorms along the route of flight at FL 250. The aircraft leveled off at FL 230. At that altitude, the crew found themselves in a "milk bowl," with brightly lit clouds but no turbulence.

Three minutes after reaching cruising altitude, the inlet ice light illuminated. The pilot selected engine/probe anti-ice from auto to override. Two minutes later, the F-14 encountered heavy rain and hail.

Still heading along the original route, the crew asked ATC for weather advisories and were told that no significant weather had been reported in their area. Soon afterward, the aircraft encountered moderate to severe turbulence, and the crew requested vectors to a clear area. Center denied any weather problems but suggested a new heading 45 degrees to the east. Two minutes later, the crew reported themselves in the clear. According to ATC tapes, elapsed time from entering the area of rain and hail to reporting in the clear was four minutes, 35 seconds. The crew cancelled the planned stop at the AFB and diverted to their home field.

Class C damage to the F-14 included canopy, windscreens and both engine domes.

Three weeks later, on the other side of the country, a senior aviator and an FRS RIO student manned their F-14 for a round robin cross-country. It was the RIO's first flight in the Tomcat; the pilot in command had over 2,000 hours in type.

Heading south after takeoff and reaching 16,000 feet, the pilot saw heavy weather ahead and requested an early turn to the west to avoid the buildups. Returning to the original route of flight, he then asked the RIO to check the radar for a point of penetration since they were already inbound to their destination, MCAS Southeast. Though the neophyte RIO told him their current course looked good, the F-14 entered IMC conditions and experienced Class C hail damage to the canopy and windscreens.

The pilot terminated the flight plan and climbed to FL 330. He made an uneventful recovery at their departure point.

Both incidents involved extensive hail damage and potentially catastrophic, life-threatening circumstances. Both crews received proper weather briefs that indicated buildups. In the first case, although tops were forecast at FL 250, the crew selected FL 230 and even after strong indications of heavy weather, continued on their selected route.

In the second incident, the considerable experience of the pilot against the nearly negligible flight time of the student RIO, as well as the RIO's inexperience in operating and interpreting the aircraft radar, should have made the pilot more cautious prior to entering the area of heavy weather.

AIR BREAKS

The temptation to proceed along planned routes of flight, even with CBs in plain view, could have proven fatal in both incidents. The tendency to blame weather briefers and forecasting capabilities cannot excuse flight crews from their ultimate responsibility to conduct flights safely, and get themselves and their aircraft back unharmed and undamaged. —Ed.

"Get Him Aboard, Paddles." How many times have you heard that familiar phrase? The carrier environment emphasizes battle group efficiency and combat readiness, of which boarding rate is one measure. Everyone from "Paddles" to the brand new nugget understands the importance of trapping on the first pass. However, *the temptation to overutilize the LSO platform "hotline" is always present,* as is the potential to place undue pressure on the LSOs.

The air wing had been deployed for two months and was operating in the Indian Ocean; the emphasis on boarding rate was paramount. The CAG LSO had established his credibility during the work-up cycle and early part of cruise.

One day, there was a low overcast layer, and the visibility was reduced by a light steady drizzle. The air wing was conducting a fighter grid exercise that caused a KA-6 to be triple cycled. As the KA-6 approached the ship, CAG paddles was the controlling LSO. He was backed up by the team leader — a squadron LSO working on his wing qualification.

"505, below glide path, slightly left of course, three quarters of a mile, call the ball."

"505, Intruder ball, 4.5."

"Roger ball, you're low."

"Easy with your wings — you're still working a little low out there."

Pressing through the in-the-middle position, the KA-6 was still low and fighting lineup . . .

"Little power and right for lineup."

As the KA-6 continued, CAG Paddles, determined to "get him aboard," was pushing his own limitations. After another power call from the CAG LSO, the wave-off lights came on and the backup LSO said, "Wave it off!" Realizing that he had compromised his own wave-off window under the pressure, CAG Paddles turned to the backup and said, "Thanks" as the Intruder cleared the deck.

Any LSO realizes the importance of boarding rate. Whether the LSO has waved 100,000 arrested landings or just 10, when he grabs the pickle, it is imperative that he trust his own judgment. When his instincts tell him to hit the wave-off lights, he needs to execute that decision and not allow boarding rate to compromise safety. In this particular case, the junior LSO waved off the Intruder, and a potential mishap was prevented. *Submitted by LSO School Class 5-86: Lt. Bob Fox (VA 147), Lt. Dwight Bouck (VA 146), Lt. Scott Paulson (VS 22), Lt. Bobby Rountree (VT 24) and Ltjg. David Groover (VRC 30).*

Tomcat Night Launch Emergency. Within seconds after a night launch from the ship, the Tomcat's master caution light and left engine overspeed/valve light illuminated. The pilot retarded the left throttle to idle and verified the left nozzle closed. The left engine oil pressure indicated zero. The right engine fuel flow indicated zero, with normal rpm and turbine inlet temperature indications. The pilot secured the left engine.

As the aircraft continued to climb, about 20 seconds after launch, the left fire light came on and the pilot secured the air source. However, the fire light remained illuminated. He pulled the fuel shutoff handle and depressed the fire extinguisher button. Three seconds later, the fire light went out.

While the RIO read the proper NATOPS emergency procedures and informed the ship, the pilot diverted to the nearby NAS and made an arrested landing.

Post-flight inspection revealed that the left air turbine starter had disintegrated, damaging the engine ECS ducting, engine wiring harness and the left outboard daily door.

VF 2's Lt. Jack Fields (pilot) and Cdr. Jim Dodge (RIO) brought their plane through a dangerous night IMC emergency with calm, professional responses. — Ed.

Fuelish Hornet. The two Hornets launched in afterburner. As they accelerated down the runway, the tower called that the wingman's afterburner was torching, and the aircraft was trailing a fireball. The pilot deselected burner, extinguishing the fire. The mission was aborted. The lead checked over Dash 2's aircraft but could find no damage or leaking fluid. The wingman could not detect any further problems and transitioned to the landing configuration.

At that point, the lead now observed a large amount of fuel venting from the drop-tank filler cap and covering the aft fuselage. He told the wingman to secure the centerline fuel transfer.

A normal recovery followed, and during the hot brake check, the filler cap latch was found in the "up" position.

Although the pilot, plane captain and final checkers all stated they had seen the fuel cap latch down prior to launch, the latch had *somehow* released, allowing the cap to become unsecured. The resulting flow of fuel ignited by the afterburner could have caused a catastrophic in-flight fire and tragedy. ◄

Attitude Flying

By LCdr. Rick Carlson

A GLANCE at the title may bring thoughts of your aircraft being enshrouded in "cumulo-bumpus." You know, that's where you just keep the ol' pipper on the horizon and disregard everything else. But there's another kind of attitude flying that is at least as interesting and definitely more subtle. I'm talking about our fluctuating states of mind when we are in our flying machines.

A pilot's attitude can be most unpredictable, yet it is a *key element* in the successful performance of any mission. From one day to the next, your mind-set can shift radically, based on your present health, mood or personal circumstances. This cause-and-effect relationship has been the subject of numerous Approach articles, but if attitudes are examined from the longer view, there is a more prevailing influence.

Just as the inclination of an aircraft relative to the wind can be determined for given airspeeds and angles of bank, a person's predisposition toward flight duties can be based on his level of experience. There are exceptions, of course, but there seem to be five distinct levels of experience, each fostering a predictable behavior.

The Pup. Found in the nugget or in aviators who are transitioning between aircraft types. Distinguishing characteristics are fire in the eyes, nose in the books, questions on the tongue and a left foot on each leg.

"What'd you fly in the fleet, sir? Oh, yeah, wow, that's neat! Uh, what's an S-2?"

It's easy to see why nuggets seem to be so alert and try so hard. Most of us seasoned vets can still remember our shaky beginnings when it seemed that our spoon-feeding was being accomplished with a shovel.

The promise of adventure and excitement at the end of training is also a heavy inducement to bring out our finest effort. The proving ground of the training environment promotes a very healthy, respectful attitude toward flying.

The Block Checker. Occurs just after designation and qualification in a particular aircraft type. This guy is easily spotted hovering over the schedules desk or recomputing the times in his logbook. The unwavering objective is to get one more 'x' in the block: formation leader, aircraft commander, first deployment, first night trap, even first emergency.

"Sorry, I can't come home for Christmas, Ma. If I don't fly during this CQ period, I won't make it to the next upgrade board. Yeah, OK, maybe next year . . ."

The spark that carried him through the start of his flight

education is still there, and, as a reward for all of this effort, he has developed excellent coordination and reflexes. Now that his successes are coming more easily and frequently, he finds himself compelled to strive for even more.

This obsessive collecting of quals is necessary to build the ego. In light of the numerous training command and RAG instructors who have shared his cockpit space to this point, there exists a real need for him to rise to their level, to shed the role of subservient junior and become an equal. It is also important for him to remain abreast of the most ambitious peers among his own cadre. Grade sheets are still being filled out, providing a tangible means of charting performance. Seeing visual progress or, at least, the absence of regression continues to provide incentive for self-improvement.

Fortunately, too, as the experience level rises, a valuable cockpit commodity evolves. The only drawback here is that concentration is still focused on relatively unfamiliar areas where experience cannot yet be called into play.

Cock of the Walk. Appears after all the blocks have been checked off and a few new tenderfeet have arrived in the squadron to express their adulation. Distinguished by a gleam in both eye and tooth, a jaw chiseled from granite and a handshake that causes bone disfigurement.

"Hi. Butch Hammerhead. Damn glad to meet you!"

This guy has been around for awhile and is performing with confident efficiency. His self-image is at its peak, which isn't totally unhealthy, but it often masks his unwillingness to acknowledge the limits of both he and his aircraft.

"Whaddaya mean no more tuck-under breaks to an inverted pass up the angle? We're gonna be called a bunch of wimps!"

The ego has reached maturation and, in some cases, saturation, but it still requires frequent massaging through the fine art of low-key self-glorification. Actual in-flight demonstrations are preferred, but when impractical, may be replaced by happy hour trumpet-tooting.

Anyone who remains in this stage for any length of time usually hasn't yet been adequately scared. He hasn't been exposed to any evidence that he is not immortal. In many cases, a heart-stopping or heart-breaking event must occur that will actually improve his attitude by adding a proper dose of humility.

The Android. A transitory phase that only some pass through. It most often affects the indispensable jock-of-all-trades in the squadron who is needed for every second or third sortie flown. This guy has done it all so many times that his pre-programmed movements and reflexes all occur without conscious thought. Fifteen minutes after another landing in the "automatic mode," the memory of his approach has blurred with the memory of his 16 others the week before.

There's no doubt in anyone's mind that he's got the requisite skill and experience. And his frame-of-mind would probably be ideal if it weren't for the steady, unrelenting call of the flight schedule. But, the prelude to burnout may be present, thus dulling any wariness or alertness that might otherwise have been part of his mental makeup. He is desparately in need of a change or break in the action, preferably in the form of a vacation that would alter his daily regimen and enable him to regain a fresh perspective in his approach to cockpit duties. Most important, though, **he** is the one who must recognize this need.

The Seasoned Salt. The culmination of years of training and experience in a variety of flying environments. He is a master of his flying machine, having learned that there are specific boundaries beyond which the machine and the environment become totally unforgiving. Over the years he has had friends and acquaintances who crossed their own boundaries with one final flourish. He realizes that his own survival must be credited to thorough preparation, proper execution and good fortune.

The Seasoned Salt has retained all the desirable aspects of his earlier stages.

Like the Pup, he feels that there is always something more to be learned. He is still in awe of the miracle of flight and realizes that his aircraft is only going to perform as well as his capable mind directs. Knowing that he is not infallible, he is always wary of a possible oversight and, thus, routinely double-checks himself and those around him.

Like the Block Checker, he feels that each flight will be a unique experience in some way, gaining him a new "qual" or at least renewing some old one. It could be a non-precision approach to minimums at a field that's always had a functional GCA or it could be exercising a contingency plan due to an unprogrammed fuel burn. It is that kind of anticipation that helps to focus his full attention on the entire flight.

Like the Cock of the Walk, his healthy ego is the catalyst that converts skill and knowledge into positive performance. Timidity may have its place but rarely in the makeup of a multimillion dollar aircraft's in-flight manager.

Like the Android, he is fully capable of dealing with complex situations without getting overloaded. His ingrained instrument scan and motor skills enable him to relegate the commonplace flying activities to his subconscious whenever his primary focus must be diverted to contingencies and emergencies.

The rate at which you reach the fifth and most desirable stage depends on how rapidly you progress through training, get a mix of different flights under your belt and, most important, develop an awareness of where your head is in relation to where it should be. Along with controlling the daily mood and health swings, you must also nurture the desire to learn, stabilize the ego, and recognize the limits of both aircraft and human.

As with flying in turbulence, it's important to always be correcting back to that target attitude. Set the optimum and press on with confidence. ◄

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It was a hazy night with no moon. The ship was conducting "Blue Water" ops. The deck was pitching. The last thing the young pilot needed was what he got: an . . .

A-7 Fuel Sump Low Light

By Cdr. R.P. Shipman

THE worst kind of emergency is the one that calls for immediate action and forces the pilot to do something right away. In these situations, doing nothing can be as bad as taking the wrong action. Such a situation happened recently to a young A-7E pilot operating at night off a ship. His SUMP LOW light illuminated while he was in marshal, indicating he had only 400 pounds of fuel — 10 to 15 minutes of flying time. He had to do something right away, or face the prospect of an ejection and a nighttime SAR effort.

The aircraft had launched on a night tanker mission. The mission had been routine except the pilot could not transfer fuel from his wing into the buddy store. However, transfer from the refueling store was normal.

The Corsair proceeded to marshal with 5,200 pounds of internal fuel and 3,200 pounds in the wings. All external tanks were dry. Two minutes after checking into marshal, the pilot's problems began. The "sump low" caution light illuminated. The pilot declared an emergency and requested an immediate push from marshal. He also repositioned the wing fuel transfer switch to AUTO and observed the aft fuel monitor light go out and the wing fuel monitor light come on — the normal sequence. Fifteen seconds later, the SUMP LOW light went out.

The pilot cancelled his emergency push request and elected to remain in marshal. But one minute later, the SUMP LOW light came back on — this time to stay. The LOW FUEL light was not illuminated.

In the A-7E, all internal and external tank fuel feeds directly to the sump tank, which in turn feeds the engine. The SUMP LOW light is illuminated when the No. 5 thermistor in the sump tank senses (through electrical resistance) that it is no longer immersed in fuel. At this point, NATOPS says that 400 ±50 pounds of usable fuel remains in the aircraft.

With the light on steady, the pilot again declared an emergency and requested immediate clearance out of marshal. CATCC cleared the aircraft inbound. The pilot cycled the emergency fuel transfer switch in accordance with NATOPS, but the SUMP LOW light remained on.

Sixteen miles from the ship, the aircraft was cleared to descend from 12,000 feet. Now the pilot started to dump fuel and requested to talk to a squadron rep. The rep advised the pilot to continue dumping fuel.

The pilot had his hands full descending from 12,000 feet, just 16 miles from the ship. He managed to intercept the glideslope about 2½ miles from the ship, but was still working off excess speed. He still had 2,000 pounds of fuel in the wings but needed them empty to be at maximum trap weight.

About three-fourths of a mile out, the pilot called the ball and advised the LSO he still had 1,000 pounds of fuel to dump. "I'm afraid I'm going to have to go around" was the pilot's next call.

The Air Boss came up at this point and told the LSO: "Take him, Paddles." The LSO then started working the aircraft. The MOVLAS (manual optical landing system) was rigged due to the pitching deck. An experienced, A-7 qualified LSO was controlling. His transmissions to the troubled A-7 had been nearly continuous inside of two miles:

"We're landing it. OK, you're looking good. Still real nice. You're still looking good. OK, don't decel on me. Nice and easy with that power. Now a little more power back on. Real easy with it. OK, you're starting to climb a little. You're climbing. Don't climb! Don't climb!"

The A-7 had gone high at the ramp after a deceleration in the middle. At the ramp, the pilot reduced power and dropped the nose. The LSO called for power and attitude (not heard by the pilot). The pilot added power and increased his attitude in response to the descending ball indication on the MOVLAS. Too little, too late.

The overweight Corsair caught a three-wire, but the sink rate generated by the pilot's desperate attempt to get aboard from a high-in-close position exceeded the aircraft's structural limits. The starboard main landing gear collapsed on touchdown. The starboard strut and wheel/brake assembly broke off, striking the UHT, then continued off the angled deck. The engine was fodded by rivets popped in the intake. Other structural damage occurred to various parts of the aircraft, putting the mishap into the category B classification. Post-mishap analysis revealed that the aircraft touched down with a sink rate in excess of 1,600 feet per minute.

Testing of the fuel system after the mishap revealed that the No. 5 thermistor was faulty, leading to an erroneous SUMP LOW Light.

In reality, all the fuel in the aircraft was usable. The NATOPS Manual, however, does not address procedures to differentiate between a No. 5 thermistor failure and a bonafide low fuel emergency. Therefore, the pilot had little recourse but to follow the published procedures for a SUMP LOW light illuminated. That procedure is to assume only 400 pounds fuel remain, land as soon as possible, and select emergency fuel to wing or aft as necessary. The pilot did all this, but then faced a most difficult situation. He had to get his overweight aircraft aboard right away. Add to this a dark, moonless night, a pitching deck, a late descent, distractions due to dumping fuel and the perception that there was only one pass available, and all the ingredients were present for a serious mishap.

The pilot, a first-cruise aviator with 435 hours in type, was described by all concerned as a strong performer. He encountered a situation that would have taxed the most experienced veteran. Bearing this in mind, and with the benefit of hindsight, there were some things the pilot could have done that night that might have prevented the accident.

- Had the pilot reacted to the SUMP LOW light when it first came on, he would have had a few more minutes to get set up for the approach and be closer to landing weight.
- The pilot did not start dumping fuel until three minutes after he declared an emergency the second time. Had he started dumping right away, he would have been down to landing weight.
- The pilot failed to jettison his refueling store and his drop-tanks. Had he done that, he would have been at max trap weight even with the delayed fuel dumping.
- The pilot rushed the Case III approach and never got set up properly for a stabilized approach. Due to his late descent

and excess speed, he was behind the aircraft all the way. The Board felt even though time was of the essence, the pilot would have been better off with a spiral descent or by taking an initial heading away from the ship to allow more time to get better set up for his one shot at the deck. As the Board put it: "The mishap pilot was behind the aircraft from paddles contact at two nm until touchdown. Mishap pilot attempted to recenter a high ball at the ramp, which is a correction in carrier aviation that usually results in a hard landing or a mishap."

The squadron rep in CATCC admitted that he could have provided more assistance. In all fairness, though, not much thought had been given fleet-wide to the treatment of a sump low light in the presence of contradictory indications. Some advice from the rep to start dumping immediately or to jettison tanks may have helped a great deal. Also, the Board felt the LSO should have accepted the possible consequences of waving off the aircraft when it was apparent the pilot was not in a position to safely land. The consequences to the aircraft and the entire CV had the mishap aircraft not caught a wire on its touchdown were potentially disastrous. As the AMB put it: "When it comes down to one aviator and one aircraft, as opposed to endangering numerous aircraft and personnel on board the CV, there is only one option."

Recommendations concentrated on expanding the NATOPS coverage and procedures related to the SUMP LOW caution light and malfunctions of the No. 5 thermistor. One endorser to the MIR, after some intensive technical research in the quiet aftermath of the accident, revealed several bits of information that supported a No. 5 thermistor failure as opposed to a more serious fuel system failure. The low fuel light never came on and the fuel quantity system was still indicating 8,400 pounds of fuel remaining. To have only 400 pounds of fuel remaining in the sump tank, all four flapper valves from the fuselage tank to the sump tanks would have had to fail, precluding gravity flow. Also, fuel transfer could still be controlled by the wing fuel transfer switch, indicating that fuel was still covering the No. 4 thermistor (and thus the No. 5 as well). As the endorser phrased it, "Had this logic been known and conveyed to the pilot, LSO and Air Officer by the CATCC Rep, the 'get him aboard at any cost' feeling would have been avoided."

As several endorsers to the MIR noted, however, this information was not common knowledge among A-7 pilots, and the NATOPS information was limited.

With the benefit of this new knowledge, NATOPS change recommendations relative to the sump low caution light and No. 5 thermistor malfunction have been submitted. Until these procedures are incorporated, however, all A-7 operators would do well to discuss the SUMP LOW light emergency and formulate what action they think is best should the problem occur in their squadron. As the AMB stated in its recommendations related to the SUMP LOW light: "There are few other airborne emergencies with the engine still operating normally that require more immediate attention." ◄

Cdr. Shipman is a reservist currently on special assignment to Approach. On active duty, he served tours as an A-4 instructor, a fleet A-7 pilot and as an assistant flight deck officer. He was the editor of Approach from January 1975 to January 1977. He is currently a 727 pilot for People Express Airlines.

Whatever It Takes

By Lt. Bob Zimmermann

DO you remember the days when you were first learning how to fly? You would ask an old salt, "How much power do I set to maintain 250 knots?" or "How much nose trim will I need for level flight?" The weathered veteran would invariably peer over his coffee cup and snarl, "Whatever it takes, kid, whatever it takes."

When I got this response, my jaw would tighten, my frustration quotient would rise, and I would think "Why, that smart aleck SOB probably doesn't even know." It wasn't until later that I learned that there are few, if any, pat answers to such questions in aviation. Each answer depends on many variables, and no two situations are exactly alike. In order to fly well, one has to do whatever it takes and no less. I recently learned that this idea also applies to aviation safety.

It was a beautiful Caribbean morning; the sun was rising over the horizon as I launched off Cat 3. My brief had been thorough, my preflight routine. I was looking forward to the mission — bombing and ship surveillance. At 10 miles I turned to climb on course. Passing 7,000 feet, I noticed the TOT fluctuating 15 to 20 degrees and the RPM fluctuating 1 percent to 2 percent. I couldn't feel any surges in the "seat of my pants," but I wasn't taking any chances in my trusty Corsair. I called for a squadron rep on departure frequency and explained the situation.

We went through the emergency procedures together and came up with a plan of action. After selecting manual fuel, all engine indications immediately stabilized, indicating a fuel control malfunction vice a failing engine. I aborted the mission and turned back toward mother. My sensation of security lasted only a few minutes, as the engine instruments again began to fluctuate with an even greater intensity.

I declared an emergency and called for a pull forward. The ship began to make a ready deck. When operating in manual fuel, the A-7 loses its temperature limiter amplifier, and a bolter or wave-off could result in an overtemp and subsequent loss of thrust. I flew a straight-in; the pass looked and felt good all the way. On touchdown I was startled as my A-7 landed with the ball in the center but didn't slow down.

"Bolter, bolter," the LSO called. "404, check your hook down. We think something fell off it . . . " said the boss. "Tower, paddles . . . he pulled out the wire 15 feet and spit it." "OK, check the landing area for FOD."

As the ramifications of these words ran through my head, I looked at the arresting hook handle only to see it in the up position. Wait a second! I know I did the landing checklist. How did it get up? I lowered the handle again, but as soon as I released it, the darn thing would spring back up. Apparently, the down lock mechanism broke on my first landing.

All I could think of was, "Why me? 520 miles to the nearest divert. The hook won't stay down, and there are no emergency procedures for that. Should I tank? Barricade?" The chug of the engine brought my thoughts back to the immediate problem.

Hoping that there must be a way to keep the hook handle down, I took two rubber bands from my knee board and wrapped them around the handle. I lowered the hook, pulled the rubber bands aft and secured them to one of the switches on the console. It was the worst kind of jury rig, but it worked. I breathed a sigh of relief as the light in the handle went out. Time now to think meatball, lineup and angle of attack.

Once safely on deck, I reflected on what actually happened. I couldn't believe that the rubber bands worked. I'm not the creative type, so how did I come up with that?

My thoughts travelled back to that crusty old flight instructor. "Whatever it takes," he said, and now I know. To fly well and to fly safely, that means preparation, a solid knowledge of NATOPS and situational awareness. And oh yes! A little bit of luck doesn't hurt.

Lt. Zimmermann is a graduate of the Naval Academy. He is the Line Division Officer and an LSO for VA 72, flying the A-7E.

Who Wants to be a "Safe Pilot"?

No matter how we try to disguise it, safety has an image problem in naval aviation. The truth of the matter is there are very few aviators who would cherish being described by their squadron mates as "safe pilots." They don't give out citations or air medals for being "real safe" nor does one become ecstatic when the skipper says, "Congratulations, you've been selected as the safety officer." Given a choice between the Battle "E" or the Safety "S," is there any doubt which a squadron would choose to recognize their hard work and effort? General Patton may not have said it, but he certainly lived the theory that "you never win a game by playing it safe."

Our earliest occupational safety programs fostered this poor image by trying to eliminate accidents by eliminating all risks, which are side effects of aggressiveness. Since aviation in those days subscribed to the axiom "no pain, no gain," the only truly safe flying organization would have been a squadron that did not fly. This philosophy was promoted by beady-eyed little wimps in hard hats who always seemed to pop up in the most unlikely places ready to put you on report for some heinous crime against safety. In their spare time these same "self-righteous sheriffs of safety" published reams of incomprehensible regulations that were not only impossible to abide by but interfered with almost every act of free will. All in all, not a very healthy environment.

In naval aviation today, controlled aggressiveness is an attribute. Our professional attitude toward safety has therefore simply become risk management of the inherent dangers. We have learned to take only the risks that produce results, as opposed to those that have a high probability of wasting assets with no return on investment. The byproduct of this type of safety program is the satisfaction of knowing your efforts have probably saved a shipmate from possible pain or death, and averted the loss of millions of taxpayers' dollars in the form of an aircraft. Ultimately, safety is designed to ensure that we have the assets, people and planes necessary to take the fight to the enemy and return in total.

Our civilian counterparts' response to safety's image problem was to change the label to "loss control." In the Navy where tradition lives, the odds of changing a program name are equivalent to those of flying an "OK 3 wire" with your eyes closed. Actually changing a name is only a cosmetic fix that leaves the heart of the problem untouched. The answer is an attitude change. The sooner we associate professional aggressiveness with the "safe pilot," the sooner we increase our combat readiness.

LCdr. J.R. Leenhouts
VA 46 Safety Officer

. . . Psych yourself *up*, not out . . .

Larry Lineup

By Lt. Jack W. Ross

YOU know Larry. Yeah. Larry Lineup. You might know him as L.L. or Land Left. He's that guy who has at one time or another terrorized all carrier pilots.

Just when everything is going OK on a dark, low ceiling CASE III approach, Larry whispers into your ear, "Drop your wing, *drop it now!* That's it." Many times his suggestion is followed. You can almost hear Larry laugh above the LSO's "right for lineup" calls. It takes a conglomeration of varsity corrections (power, attitude, lineup) and recorrections to get the aircraft within acceptable landing parameters.

Experienced pilots may shake Larry's influence and make the needed play. Larry knows this and usually pulls hardest on the left ear of nuggets.

Meanwhile, paddles knows what's happening; he has seen Larry's work before. Paddles does his best; "Level your wings. A little power, right for lineup." The pilot responds well, then Larry steps back in, "Keep the correction in," Larry says. "Yeah, overshoot to the other side, big time!"

"Wave off!" cries Paddles. Larry wins another one.

Larry Lineup is a degenerate. How can pilots rid themselves of him? The process begins in the ready room. Pilots must exorcise Larry from their minds. The following theorems will help reduce Larry Lineup to a mere memory:

KYS
Peek
Relax
Think positively

KYS. Know Your Stuff! Know approach procedures cold. Prior to a flight, review your trend analysis sheets and fly the pass over in your mind. Recall corrective techniques used for various deviations, remembering the little tricks that help in forcasting an impending deviation. Study emergencies that have a negative affect on the approach characteristics of your aircraft. Do all this before you man up and you'll KYS!

Peek. Yes, you've heard it before; one peek is worth a thousand scans. Every once in a while take that peek, just a little one though, and be careful not to lock onto the drop lights or ramp. Larry would like that. Then it's right back into the cockpit with a continuous scan, the all-American scan that includes VSI, radar altimeter and airspeed (needles and/or TACAN for those straight-in approaches), then ball, lineup and AOA.

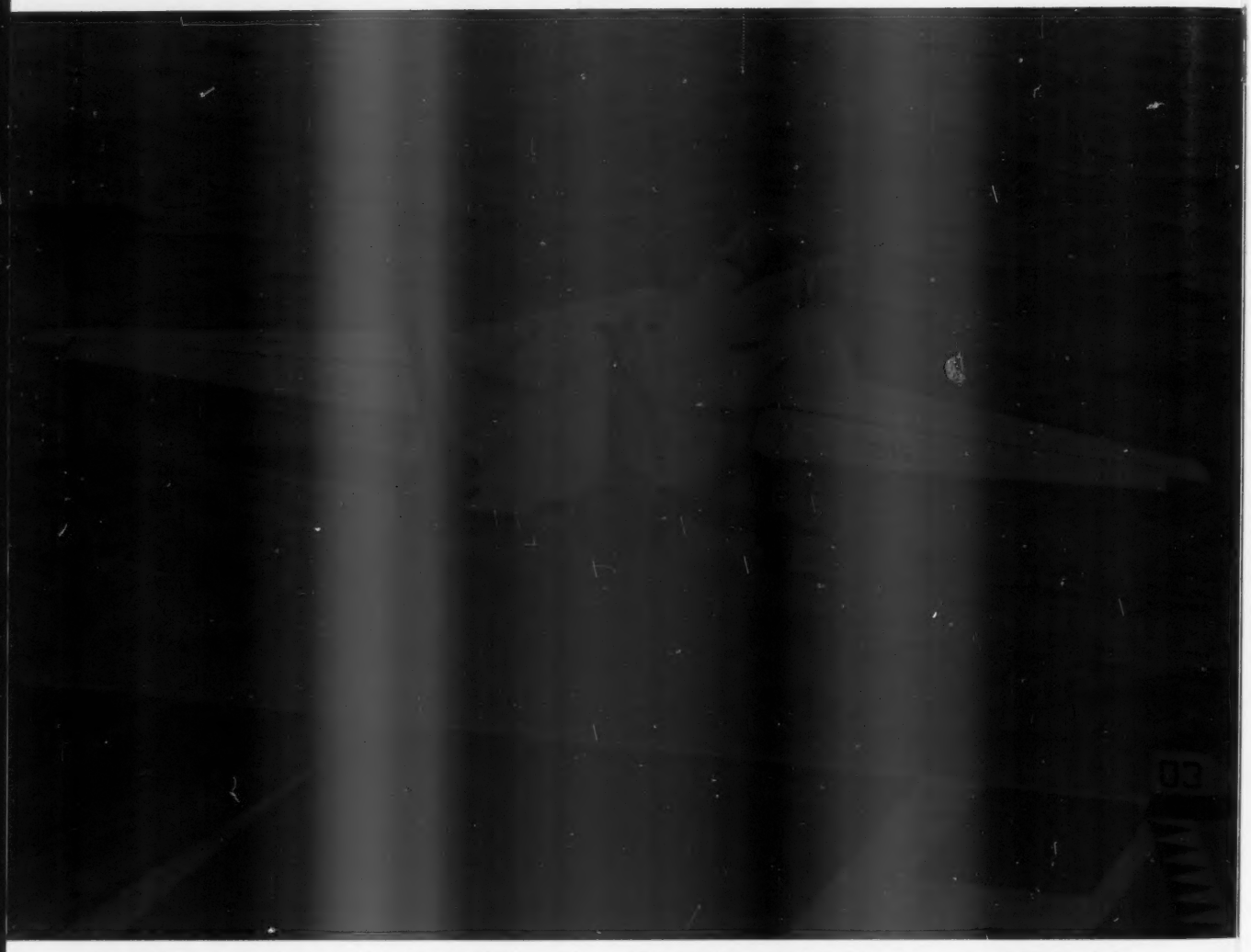
Relax. Remember, Larry can't play unless the strings are tight. Don't overdo it, though; it's good to have your heart pounding a little. There is a definite "middle of the road" to being relaxed. Eventually you'll become "comfortable." After all, the recovery evolution is familiar; you've been there before and thought about it before hand. Just don't confuse comfort with complacency.

Think Positively. This is easy if you've followed the first three theorems. When it's raining, or there's no moon or it's been a while since your last night trap, things just don't matter. The mind, when used correctly, can overcome enormous hurdles. So what's a little darkness? Psych yourself *up*, not out.

KYS, Peek, Relax and Think Positively. The four theorems for casting Larry aside must be aggressively applied. Prior to flying, you must look within yourself for the Larry Lineup that lives in each of us and leave him behind. Most important: Never let up, for Larry himself will never quit. He'll be at your next brief and the one after that and . . . ◄

Lt. Ross is the CAG LSO for Air Wing 6, operating off the USS *Forrestal* (CV 59). Previously, he was an instructor at the U.S. Navy LSO School.

No Longer a



I GUESS every seagoing guy with wings has had experiences that made how he earns his paycheck crystal clear. There are times when logic and survival instinct dictate the proper course of action, and you are convinced that the Man upstairs is the only other party who is not trying to kill you.

My squadron was undergoing refresher CV ops in the SOCAL Op Area. It had been nearly four months since our last at-sea period and 10 months since we returned from cruise. Nearly 75 percent of all the "old guys" had transferred. The squadron was almost brand new. As a RIO, I had about 150 traps and 600 F-14 hours under my belt, most of which were in the company of a senior pilot with 1,000-plus hours in the Tomcat. Although, I don't mean to detract from my present pilot's ability, I no longer had the (false) sense of security that many nugget NFOs have from flying with "old guys."

We were to "hot switch" and get a single night trap to maintain my pilot's night currency. The weather was kind of "doggy," the deck was pitching a bit, and the boat and air

a Nugget

By Lt. Craig Steffen

wing were still getting back into the swing of things after a well-deserved turnaround. The ship had also undergone a vast change of key personnel, which contributed to my cautious and skeptical opinion of embarked night ops.

After the normal slingshot ride into darkness, we climbed to 1,200 feet and turned downwind. No big deal. Some folks had been having some problems getting aboard due to the weather and pitching deck, but old Sly seemed to have no problem getting us an "OK 3-wire" on our first pass. The yellowshirts signaled us to taxi abeam the island to shut down or possibly hot switch. We were 6.5 on the ball (max trap was 7.4), and we were now down to 5.8 as we waited for someone to make a decision.

After what seemed like an eternity, we were directed toward the bow for another trip around the pattern. By then we had 5,500 pounds of fuel, which gave us a gross weight of 49.9 for a 50,000-pound cat shot. The nearest divert field was 100 miles away, which necessitated a 3.6 bingo. We were both comfortable with our fuel state for one more trip around the pattern before being stuffed for the night. After all, a trap's a trap . . . we thought.

Another exhilirating cat shot and turn downwind; we called "abeam" with our fuel state, now 5.0. Motoring downwind, it was becoming apparent that the pattern was full due to numerous bolters and wave-offs. We were at 12 DME before being directed to turn left to the final bearing. At that point we knew that we were only going to have one shot at getting aboard before having to bingo, since no tanker was available. Sure enough — I called the ball with 4.2, and (reaffirming Murphy's Law that "If anything can go wrong, it will") the LSO waved us off due to a fouled deck.

Seeing 3.6 on my fuel totalizer, I called "201's bingo, fuel state 3.6." The controllers responded, "Roger that 201, NAS West Coast bears 030 for 90 miles, switch Departure button 7." The BRC was about 210 degrees, so we began a climbing left-hand turn to the bingo profile. I checked in on departure frequency and, almost as if we had expected it, heard the infamous "Standby." A minute or so later as we were climbing through 7,000 feet outbound, Departure came up and said, "201, NAS West reports 400 feet ceiling with one mile visibility, tacan down, braking action nil. Switch marshal and return to mother."

Suddenly, I felt that I had heard this story before; on my last cruise a buddy was in a bingo situation when higher authority told him to return to the ship. He did, only to have that same higher authority eventually direct him to bingo anyway. He ran out of gas about 20 miles short of the beach and got wet. Granted, our scenario was a bit different, but it was obvious that we might meet the same fate if we didn't assert ourselves.

"Negative, 201 is bingo!" I responded, despite the feeling that I might have some explaining to do later on. We proceeded on our bingo profile climbing to 28,000 feet at .68 IMN and followed it precisely. We checked through the appropriate controlling agencies, and noting the deteriorating weather at NAS West Coast declared "Emergency Fuel." We began squawking 7700.

Approaching the coast, we could see the city lights glowing through the cloud deck below. Our fuel state was now 2.2, and we were approximately five miles from the field after our idle descent and vectors from Approach Control. The duty runway was 6L due to strong easterly winds that prevented the use of runway 24. Unfortunately, 6L has no strobes or ILS, which made the approach all the more challenging. We could faintly see the headlights of cars on NAS West Coast Road, which at first glance had a haunting resemblance to a runway; still, we knew we were about a mile left of course. We broke out of the clouds at about 1,000 feet MSL and visually acquired the field at our 1 o'clock position at about a mile and a half. Cleared to land and determined to get on deck, we made a play for the field. After a bit of slip-sliding, and with the assistance of the short-field arresting gear, we came to a stop.

Reflecting on this experience, I regard it as a great turning point in my career as a Naval Flight Officer. I know that there are things that I could have and, in fact, *should have* done better. For example, taking a look at the divert field's diagram from all aspects, so there would be no question in my mind about the lighting or landing system available. In this situation, although I had the approach plate in hand, I had a hard time focusing my attention on anything other than navigating, monitoring fuel state and consumption, and completing of checklists. More importantly, this experience lit a neon sign in my head that says, "You are responsible for your own survival!" At that point, I guess I knew that I was outliving my days as a "Nugget."

Lt. Steffen is a RIO assigned to VF 111, based at NAS Miramar, Calif. He is currently deployed to the Western Pacific with CVW 15 aboard the USS *Carl Vinson* (CVN 70).

Déjà vu

By Cdr. G.P. Mulvany

IF you use the same government-issue dictionary as I, you'll find déjà vu defined as something overly or unpleasantly familiar. The term is perhaps more commonly associated with a psychological phenomenon known as paramnesia — the illusion of remembering scenes and events when experienced for the first time. It's an interesting subject, and theories about its neurological origins abound. But I'm not a neurologist, and this article is about aviation safety.

Every time we conduct a safety survey for an aviation unit or facility, we get a good look at one more way to tackle a rather intangible task, which is to achieve consistently safe aviation operations. Because we repeatedly see innovative solutions, we have a fairly accurate baseline of fleet standards concerning aviation safety issues. We're also able to see what basics are commonly overlooked or ignored. An excellent article entitled "Safety Center Survey Trends" appeared in the March and April issue of Mech magazine. It dealt with recurring discrepancies highlighted during surveys of maintenance departments, and it should be required reading for all supervisors. I'm going to describe some of these discrepancies that have become unpleasantly familiar from an operational viewpoint.

There's nothing mysterious about how to "look good" on an aviation safety survey. The gouge is in NAVSAFECEN 3750 P1 (10-84), the Naval Safety Center Aviation Safety Review Checklist, which is available through your aircraft analyst at the Safety Center. We don't conduct inspections. We survey your safety posture and try to help you make it stronger. The following list of common discrepancies augments the checklist. Maybe there's something here that you can use. No motherhood — just the facts.

I. Operations

a. Non-compliance with OPNAVINST 3710.7 series in the upkeep of training/qualification jackets and aviator logbooks. You'd be surprised what should be purged from your jacket. Clear, concise directions are printed on the tabbed dividers.

b. No structured training of newly-assigned flight crews. Many squadrons, in an effort to allow a new aircrew member to walk before he's forced to run, define an airborne training syllabus in their SOP. We endorse this idea.

c. Mismatched dates between pilot logbooks and NATOPS QUAL/Instrument rating forms.

d. Instrument school dates outside of 60-day window for check flights.

e. Improper and inadequate number of required instrument approaches documented.

f. Heads of departments or SDOs signing flight schedules without "by direction" authority.

g. Crews flying without current medical up-chit.

h. Annual egress training out of qual.

i. Simulator flights not being logged.

j. Accident and flight violation record section of logbooks not current or not signed quarterly.

II. Safety/NATOPS

a. Lack of AMB/pre-mishap plan training. The first time the crash phone rings is *not* the time to first become familiar with your pre-mishap plan. Know your reporting requirements, time criteria and your notification procedures. Senior members of AMBs and their alternates should be predesignated and should meet with the assigned members of their AMB to discuss responsibilities "when the phone rings."

b. Lack of command support for the Enlisted Safety Council. Give this program some teeth, by first insisting that the primary council members attend each meeting, then by legitimizing their recommendations with formal published minutes. Follow through.

c. Poorly equipped mishap investigation field kits. Your safety officer ought to have a copy of NAVAIR 00-80T-67, the Handbook for Aircraft Accident Investigation. It should be required reading for AMB senior members. Page A-1 of Appendix A lists basic items which should be included in all field kits.

d. Poor hearing conservation programs. We work in an environment fraught with high frequency, high amplitude sound waves — noise. Mere exposure without ear protection can permanently degrade hearing — it doesn't have to hurt to be damaging.

e. Poor CPR training programs. Anyone who has taken CPR training knows how it can help you deal with a variety of life-threatening situations.

f. Poor knowledge of hazardous materials, flammable liquid storage, hazardous waste disposal and occupational safety standards. The Occupational Health Division at the Naval Safety Center, Autovon 564-1189, can offer valuable guidance in these areas.

g. Inadequate protective headgear for maintenance personnel working above the wing line. Ask yourself this question: Is the headgear your folks wear adequate to prevent serious cranial injury in the event of a fall, or is it just window dressing?

III. Facilities

a. No active training programs for contractor refueling programs.

b. Fuels testing labs don't meet COMNAVAIRSYSCOM requirements.

c. Fuel samples not being tested for anti-icing inhibitors.

d. Eyewash stations not installed at truck-fill stands.

e. Weak first aid or CPR training for crash, fire and rescue members.

f. Inadequate flight line fire extinguisher training.

g. Inoperative out-of-battery lights on E-28 arresting gear.

h. Rating for E-5 chain overrun gear not published in Air Operations Manual or in FLIP publications.

i. Field ambulances in poor repair, not adequately stocked with medical supplies.

An important part of aviation safety is paying attention to details. Naval aviation programs have evolved to the point where we have identified most existing hazards, and we can quickly report new hazards as they occur. Generally, if you follow the guidelines of existing programs, you can successfully operate. But, if you pay attention to the details, your programs are deeper and can absorb occasional errors or neglect without breaking down. This is a list of commonly overlooked details. They don't all apply to every unit, but if they apply to you . . . ◄

Cdr. Mulvany is the fighter/attack branch head and A-7 analyst at the Naval Safety Center, Norfolk, Va.

Carrier Deck Lighting an

"Power, power, **power, wave it off,** WAVE-OFF, WAVE-OFF! BURNER BURNER!" A moment's pause followed by "Ninety-nine, signal max conserve, signal max conserve." You have a sinking feeling in the pit of your stomach because you know what just happened; someone in your air wing has just hit the ramp.

There are fewer ramp strikes these days due, in part, to rigorous training, improved landing aids, approach aids, slower approach speeds, better approach handling qualities and larger carrier decks. Unfortunately, despite all the training and technical advances, ramp strikes still occur.

One solution occasionally proposed after a ramp strike is to take the pilot entirely out of the loop by the use of the Automatic Carrier Landing System (ACLS) Mode 1 or "hands-off to touchdown." While this will probably prevent the *pilot* from making the ramp strike, given the reliability, complexity and cost of our present technology, it does not appear to offer an immediate or total answer to the problem.

Let's examine some common threads identified in ramp strikes. The vast majority occur at night. For some reason —fatigue, bad weather, aircraft malfunction, lack of proficiency, inexperience — a serious breakdown in the pilot's scan occurs, and the pilot makes a large deviation from the proper glide slope while inside the LSO's safe wave-off point. The aircraft almost invariably touches down on centerline, hitting part of the ramp or rounddown.

Why does the ramp strike happen? Day or night, good or bad weather, the final portion of the carrier approach remains a visual reference piloting task. A pilot usually performs approaches day and night to landings on runways. The ingrained visual scene during approaches at airfields, especially at night, is unlike that of the carrier environment (see figure 1). The presence of visual lighting cues for approach and threshold markings at an airfield offers the most striking

and the Ramp Strike

By LCdr. W.F. Readdy

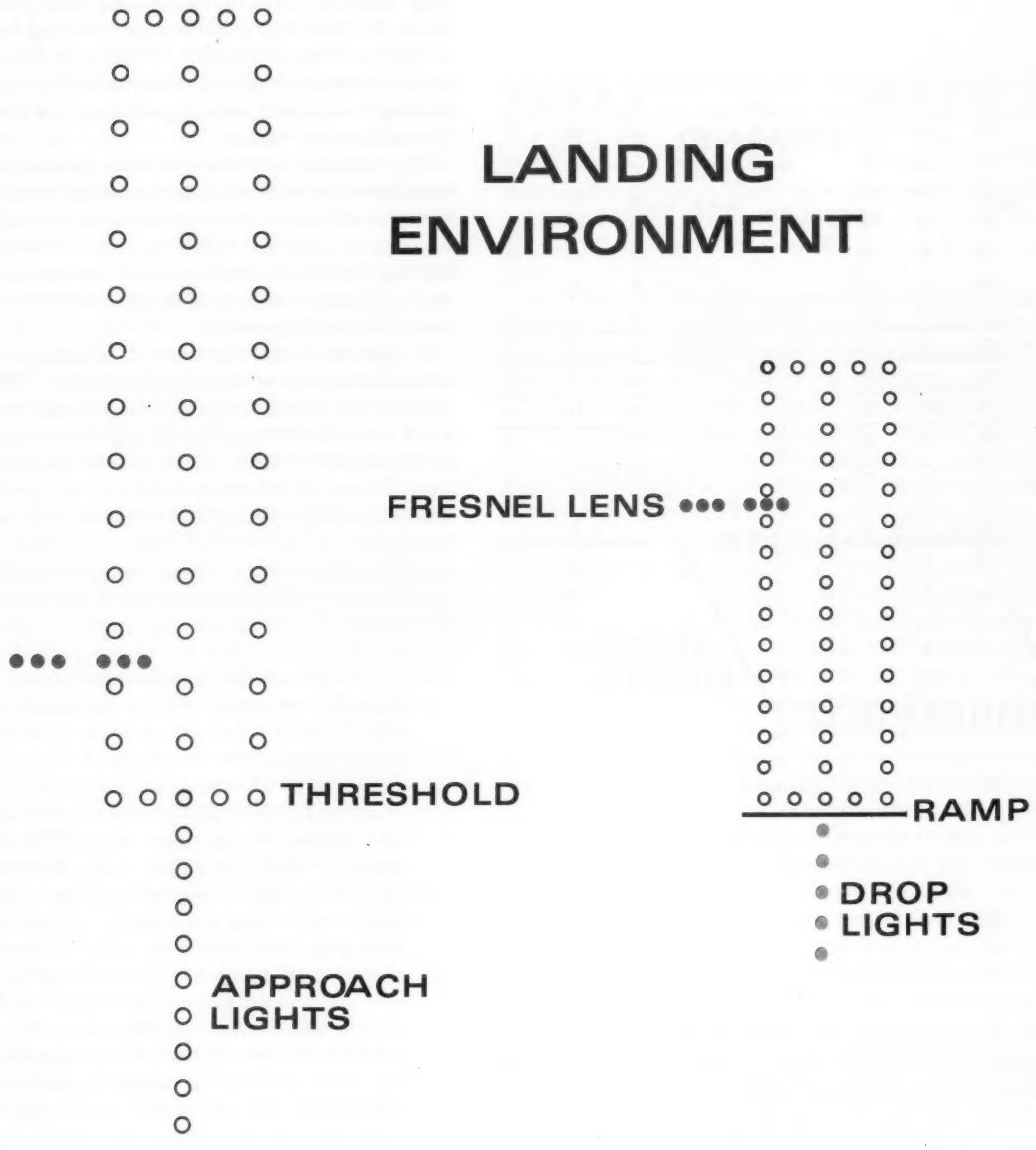


Figure 1

Graphics by Frank L. Smith

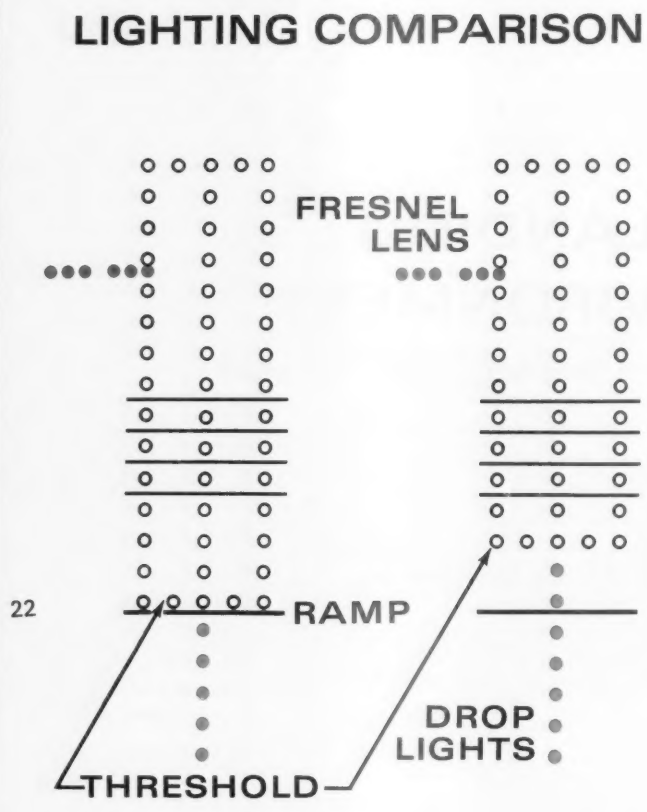


Figure 2

contrast. At the field, the threshold lights indicate the safe portion of the runway in which to land. In carrier landing area lighting schemes, the threshold lights are located virtually on, or in very close proximity to, the rounddown. Once a breakdown in visual scan occurs, the pilot typically focuses on a single goal — to land the aircraft. He then attempts to complete the landing visually and tries to "make the picture look right" — descending rapidly to the perceived proper glide slope, and in so doing, leaving half of his aircraft on the ramp. Such a technique, in addition to causing ramp strikes, also offers a potential solution to the problem.

A more familiar visual scene might be created by moving the carrier deck threshold lighting up the flight deck, away from the ramp (at least one aircraft length, perhaps more depending on deck size). Centerline lights leading up to the threshold could be colored red, similar to the droplights, which might provide a better lineup cue (see figure 2). The pilot will also see the threshold lights start to disappear if he descends below the ramp at the "in-the-middle" to the "in-close" position. Given the classic ramp strike setup described above, the result here could be a hard landing, but at least the aircraft is coming down safely within the landing area. For the record, let me say that this proposal in no way condones "deck spotting," or implies reducing the need for intensive Field Carrier Landing Practice.

This proposal involves *no moving parts*, and the cost to reconfigure the threshold lighting scheme would be minimal. Maintenance would be comparable to that associated with landing area lighting. LSOs in the audience also note that the lighting changes *do not* alter any of the lens geometry (basic angle, roll angle, hook to ramp, etc.), only the pilot's *perception* of the landing area.

It might be interesting to see if this idea was among the many lighting evaluations done in the late 1950s and early 1960s by the Naval Air Engineering Center and Naval Air Test Center. Given the cost and complexity of our current and proposed carrier-based aircraft and the simplicity and economy of the proposed solution, it might bear evaluation. Perhaps it could turn a potential ramp strike into just "a night in the barrel."

LCdr. Readdy is an A-6 pilot, currently assigned as Assistant Strike Ops in USS *Coral Sea* (CV 43). He is a former NATC Carrier Suitability Pilot and a qualified LSO.

"Even with the relative stability of carrier visual landing aids (VLA), including lighting and painting schemes, we know that the VLA we have now can be changed if needed. As recently as within the past year, NAEC/NATC evaluated a modified lighting scheme, designed to improve lineup cues, in a NTC Orlando manned flight simulator, and flight tested a modified paint scheme aboard ship. The point is, if better VLA are thought of and pass the test, they will find their place aboard ship. Approach magazine is a good forum to surface and discuss innovative ideas. After reading this article, the readers will undoubtedly come up with plusses and minuses for each of the ideas, but after it is kicked around a little and then evaluated, the end result might help carrier aviation. In the meantime, dedicated deck spotters should take no heart; unless you change, you are beyond help."
Cdr. D.H. Finney, Head, Carrier Suitability, Naval Air Test Center.

"We're Not Going to Make It"

By Lt. Sam Wrigley

THERE is nothing worse than taking off and having that gut feeling that maybe, just maybe, you didn't take on enough fuel. You can't go back for fuel, at least not until you've burned down to acceptable landing limits. Once you've stabilized at altitude and checked fuel flow against ground speed and distance, only then can you relax or, if necessary, start planning on alternates.

I remember one particular trip from NS Keflavik to NAS Jacksonville. I had checked the distance and figured on head winds to get an idea of what I should take for a fuel load. What other help was (and is) there for fuel planning?

• NATOPS — Chapter 11 gives all the necessary charts to compute the estimated fuel load required for any mission. Unfortunately, some pilots find them cumbersome to use, if not actually mysterious. Pilots don't refer to them as much as they should.

• OPARS — This highly accurate, computer-generated fuel plan is usually very good. You feed in the aircraft and flight parameters, and in return, you get a readout specifying what fuel load to take. They are very helpful, and I order one for every cross-country/repo flight. One problem with OPARS: It will not be accurate unless you follow the prescribed flight path. For my trip to NAS Jax, OPARS had me swinging through Minnesota and Tennessee — no way was I going to swing that far west!

• Gouge — Saying "Every plane commander has his own gouge figures for fuel planning, usually based on personal experience and who your former PPCs were." I usually use 5k for the first and 4.5k for every hour afterward. Add your on-top requirement, 1k for icing, and 2k for mom and the kids. Then you must make a wag of your average ground speed based upon your personal estimate of the average wind en route. This system is not too bad and is usually a good backup to OPARS. I check my gouge figure against the OPARS and go with the higher of the two.

• Tanker Theory — Put all the fuel on board that you can. This method is neither professional nor fuel-efficient, but I have occasionally regretted not following it.

For my trip from Kef to Jax, I ordered my OPARS instead of using the NATOPS tables. OPARS said fly over the Great Lakes and you will need 50k for fuel. My gouge calculation said 54k would be needed for a 9.5-hour flight. Always the smart plane commander, I asked my co-pilot and flight engineer for their estimates. The co-pilot came up with my answer, while the flight engineer wanted to "Bag it out" (the Tanker Theory). We laughed and went with 55k, 5k short of a full load.

After takeoff, I was feeling proud that I had figured all the calculations and the crew was heading for a good time in Jax. Since this was a long airways flight, I headed to the back of the plane to catch a nap. (We plane commanders know the value of quality shuteye; let the 2P and 3P get a chance to fly.)

About 2½ hours into the flight, my co-pilot woke me. "We're not going to make it" were the first words I heard. Fully awakened by the news, I was ready to bailout or ditch, but the co-pilot amplified his statement. "I don't think we can get to Jax with 10k on-top," he said. Somewhat calmer, I proceeded to the flight station to set everything right. Unfortunately, my co-pilot was correct. We were not going to arrive with our on-top requirement. Winds were higher than anticipated, and our ground speed was down to 275 knots instead of the 300 knots I had used for fuel planning. After a few rapid calculations, I determined we **might** get to Jax with 6k, less than I wanted. I could have pushed on and probably landed without flaming out an engine; but if the weather was worse than forecast and transit to an alternate was required, or if a couple of the fuel quantity gauges were inaccurate . . . well, I felt set-up for a silly mishap and decided to stop at NAS Brunswick, add 10k of fuel and continue on to Jax. What did it cost? One hour, a small price to pay for peace of mind.

We all want to operate efficiently, keep the flight-hour costs down and have those hours left at the end of the quarter for another bounce hop, but never be afraid to admit a mistake. It may cost some time. But it is far better than being a mishap or hazard report statistic. Being professional is being safe. Fuel plan as best you can, but if unexpected winds or weather are encountered, know your options en route . . . and use them!

Lt. Wrigley was the aviation safety officer for VP 40 and is currently attending the Naval Postgraduate School.

Lt. Gary Shiple, (left), Lt. Steve Nadeau, (right).

Lt. Steve Nadeau
Lt. Gary Shiplé
VQ 1

Lt. Steve Nadeau (pilot), Lt. Gary Shiple (navigator) and five crew members were scheduled for a night launch from the USS *Enterprise* (CVN 65). After a routine preflight and start, the EA-3B taxied to cat one for launch.

Upon completion of final checks while in tension, Lt. Nadeau signaled the cat officer that the "Whale" was ready for launch. As the catapult fired, the bridle separated from the aircraft, hitting the nose gear on its way down the track. This left the aircraft and its crew in extremis, traveling down the cat at full power but with insufficient airspeed to become airborne. Lt. Nadeau and Lt. Shiple initiated immediate and flawless abort procedures — idle throttles and maximum braking. They were able to stop the aircraft approximately halfway down the cat track.

Normally, Approach presents two Bravo Zulu citations per issue. However, we have received several deserving write-ups over the last year, and in a desire to publish these stories within a reasonably current time frame — hopefully before the individual(s) cited leave their squadron — and in keeping with the recent switch to a quarterly publishing schedule, we are going to use five BZs for the next few issues. Keep up the good work out there!

And . . . from time to time, we get phone calls asking how to submit a BZ, usually from a jaygee, newly assigned as assistant safety or PAO. There are certain guidelines for a BZ story, and you'll find them in the box on the right.

BRAVO ZULU

Occasionally, we get inquiries as to the derivation of the Bravo Zulu feature, as well as the meaning of the term "Bravo Zulu." Bravo Zulu, the precise meaning of which is "Well Done," was apparently first used during World War II, perhaps by Admiral Bill Halsey himself, although the exact date and circumstances are lost. BZ is a category of the signalman's terminology called a "governing group," and is used to set off a group of data or messages which follow the BZ.

Every service safety magazine has its own laudatory feature, and Approach used a succession of titles before settling on Bravo Zulu. The first was "Old Pro," followed by "Good Show" (the British use a similar title), then "Well Done." The first Bravo Zulu appeared in the February 1972 issue of Approach and has become a regular feature of the magazine ever since.

If you want to submit a BZ nomination, here's how. The nomination must be submitted through the commanding officer of the squadron, chopped through the appropriate air wing, MAG or PATWING. A 5x7 black and white photo of the aircrew involved should also accompany the story and endorsements. Photos of the event are always welcome, such as a barricade arrestment or landing approach. Views of damaged equipment, i.e., canopies, tires, are also important.

Send the nomination to: Editor, Approach Magazine, Naval Safety Center, NAS Norfolk, Virginia 23511-5796.

Ltjg. Chip Strangfeld, USCG (left), Capt. Mike Joslyn, USMC (right).

Capt. Mike Joslyn, USMC
Ltjg. Chip Strangfeld, USCG
HT 18

Capt. Joslyn was the pilot-in-command of a TH-57C Sea Ranger on the return leg from a weekend cross-country airway navigation training flight. Ltjg. Strangfeld, student naval aviator (SNA), was his copilot. Taking off from Wright Patterson Air Force Base, the aircrew quickly entered IMC while climbing to the level-off altitude of 3,000 feet. Approximately 30 minutes into the flight, Capt. Joslyn was discussing the deteriorating weather conditions with his student when their engine experienced a sudden and complete loss of power. Ltjg. Strangfeld immediately lowered the collective and entered an instrument autorotation. Capt. Joslyn took the controls and directed Ltjg. Strangfeld to attempt a restart. At first the engine responded positively to their efforts with TOT/NG increasing, but the engine did not sustain power and the starter was secured. As the rate of descent exceeded 1,800 FPM, no further attempts at a restart were conducted. The aircraft broke out of the clouds at 600 feet AGL over the community of Monroe, Ohio. Capt. Joslyn quickly maneuvered the aircraft to complete the autorotative landing to a service road in the community park, touching down with slight forward motion and minimal damage to the aircraft.

1st Lt. S.P. McDonald, USMC
VMA 513

After a short takeoff in an AV-8C from USS *Tarawa* (LHA 1), 1st Lt. McDonald was turning downwind when the low oil pressure light illuminated. He complied with the NATOPS procedures for an oil system failure and requested divert information. As soon as he set the power at

1st Lt. S.P. McDonald, USMC

75 percent, the RPM indicator failed and went to zero. The initial vector was to NAS Miramar, 48 nm away.

1st Lt. McDonald contacted Beaver Control and declared an emergency, telling them of the possible impending engine failure. Beaver Control reported San Clemente Island NALF as being only 28 nm away and gave him a vector. To compound matters, en route to the divert, the aircraft's DC voltage light illuminated. With only his batteries supplying electrical power, 1st Lt. McDonald secured all non-essential electrical equipment and informed Beaver Control he would be NORDO.

This was the first time 1st Lt. McDonald had been to San Clemente. At 8,500 feet MSL, the Harrier's airspeed was 375 KIAS, resulting from the fixed-throttle approach procedure for an oil system failure. 1st Lt. McDonald turned his radios back on and quickly told the tower his predicament. Using S-turns, speed brakes and flaps, the aircraft was slowed, and the gear extended three miles prior to the threshold. Touchdown was at 150 KIAS. 1st Lt. McDonald immediately set the nozzles to the braking stop position and secured the engine when the landing rollout was under control. As the throttle hit the cut-off position, the engine siezed. Post-flight inspection revealed that the high-pressure oil filter had separated from the engine, and all the engine oil had been pumped into the engine bay.

Cdr. Mike Crabtree
LCdr. Joe Krygiel
VA 205

Following a weapons delivery mission flown by a section of A-7Es at the Townsend Bombing Range, Cdr. Mike Crabtree, VA 205's commanding officer, led his wingman, LCdr. Joe Krygiel, during an off-target rendezvous. As LCdr. Krygiel joined his leader at an altitude of 7,000 feet, he noticed a small stream of fuel venting from Cdr. Crabtree's aircraft. In accordance with the preflight brief, Cdr. Crabtree passed the lead to LCdr. Krygiel for the 270-mile return leg to homeplate, NAS Atlanta.

Following this succession of lead, Cdr. Crabtree advanced his throttle to military at which time his engine lost power. Quickly assessing the situation, Cdr. Crabtree informed his wingman, assumed the lead and analyzed his situation. With his engine putting out less than 70 percent of total power and unable to maintain level flight, Cdr. Crabtree asked for a vector to the nearest suitable emergency divert field.

LCdr. Krygiel confirmed that the airfield was approximately 30 miles away and out of potential range of Cdr. Crabtree's crippled A-7. At this

LCdr. Joe Krygiel (left), Cdr. Mike Crabtree (right).

point the only field available was Wright Army Auxiliary Airfield, Fort Stewart, Ga., facility with a runway only 5,000 feet long, with no arresting gear. Cdr. Crabtree established a max range angle of attack glide en route to the field and landed safely.

Subsequent maintenance investigation revealed a failure of the high pressure fuel line fitting and its associated "O"-ring.

Lt. Walter Scull (left),
AW2 Steve Stanford (center),
Cdr. Robert Chaplain (right).

Cdr. Robert Chaplain
Lt. Walter Scull
AW2 Steve Stanford
HSL 42

Cdr. Chaplin (squadron XO), Lt. Scull and AW2 Stanford were conducting a night data-link exercise between their SH-60B and USS *Simpson* (FFG 56). More than an hour into the flight, they felt mild vibrations in the airframe. They decided to return to homebase for a flight control checkout. Approximately halfway to the beach, still 40 nm out, the airframe experienced a sudden onset of severe vibrations with rotor speed varying between 105 percent and 95 percent. Cdr. Chaplin's helmet microphone had failed and Lt. Scull maintained control of the aircraft, while Cdr. Chaplin performed the immediate ditching checklist. AW2 Stanford completed his checklist, took over communications with NAF Mayport and requested aircraft in the area to close his position in case ditching became necessary.

Cdr. Chaplin and Lt. Scull determined the vibrations stemmed from a failed main rotor blade damper. Prior wardroom discussion of similar indications were a definite aid to rapid determination of the probable cause and best course of action. Upon reaching NAF Mayport the crew performed a no-hover landing in conjunction with securing the engine power control levers on touchdown. ◄

Self-Medication

By Lt. P.W. Lapert, MC

ALTHOUGH the topic of self-medication is easily one of the most hackneyed in aviation safety literature, it is nonetheless a topic that deserves repeated discussion. Repetition is no stranger to the aviator. We brief the ROE and spin/departure procedures like a rosary, so that in extremis we can respond correctly and without hesitation. That is not to say that your flight surgeon expects you to memorize and repeat procedures for the emergency management of a runny nose. However, it is important to know that dabbling around with *any* medication has inherent risks, and my intent is to review the most commonly used drugs. Because of their more widely understood ramifications, alcohol and tobacco will not be covered.

Without question, the most common reason for seeking relief from the doc is the cold. Everyone is familiar with the effects of changing ambient pressures on the sinuses and the ears, and no one who loves to fly wants to go hard-down for sinus overstress.

Cold Remedies:

Decongestants: Sudafed (R)

Action: Shrinks the lining of the nose and sinuses by constricting blood vessels.

Possible side effects: Nervousness, "wakefulness," restlessness, headache. In large doses: Hallucinations, cardiovascular collapse.

Decongestant/Expectorant: Entex (R)

Action: Like Sudafed, it also thins bronchial secretions so they can be more easily coughed up.

Possible side effects: Same as Sudafed.

Antihistamines: Benadryl, Actifed, Comtrex, Deconamine, Dristan, Rodec, Triaminic, Contac, Nyquil, Chlortrimetron.

Actions: These drugs shrink down the mucosa by blocking the action of histamine (released by your body in response to foreign invaders) which causes blood vessels to dilate, eyes to water, nose to run, etc.

Possible side effects: Sedation, dizziness, disturbed coordination, fatigue, euphoria, nausea, vomiting, irritability, rapid pulse, confusion.

Cough Syrups: Robitussin, Robitussin DM, Robitussin AC, Terpin, Hydrate, Elixir, Benylin DM, Comtrex, CoTylenol.

Actions: Generally all of these preparations have guaifenesin which is an expectorant (fairly benign), but the different types may or may not add either Dextromethorphan DM or codeine (the only two cough suppressants in widespread use).

Possible side effects: Few with guaifenesin. Add DM or codeine and you get drowsiness, blurred vision, stomach upset, nervousness.

Nasal Sprays: Afrin, Dristan, Nostrilla, etc.

Actions: Shrinks nasal membranes by constricting blood vessels.

Possible side effects: Rebound effect after drug wears off causing greater congestion (therefore potentially addictive). Emergency use only (e.g., squeeze during descent).

NOTE: Your doctor may prescribe a nasal mist which contains steroid. This has few if any side effects. It is only used for the control of allergic symptoms and is not a cold remedy.

The next most common reason for visiting the doctor is control of pain. There are two basic types of pain medicines: those with a narcotic (opiates like codeine, morphine, etc.) and those that relieve pain by blocking the inflamatory response caused by injury. We needn't delve into the reasons for not taking a shot of morphine before strapping into your aircraft. The problems with the non-narcotic analgesics are a lot more obscure. These drugs include: Aspirin, Indocin, Motrin, Phenylbutazone, Naprosyn, Tylenol.

Actions: As described above.

Possible side effects: Stomach upset, prolonged bleeding, ringing in the ears (high doses of aspirin).

NOTE: Microscopic bleeding from the stomach can, over time, thin your blood to the point where you are NPQ on your annual exam, and your tolerance to low O_2 concentrations decreases.

Next on the hit parade of reasons not to self-medicate are upset guts (e.g., too many or too few head calls).

Anti-diarrheals: Lomotil, Immodium

Actions: Decreases diarrhea by slowing the muscular contractions of the gut.

Possible side effects: Nausea, dry mouth, constipation, drowsiness, nervousness, euphoria, confusion.

Laxitives:

Bulk: Bran fiber, Metamucil, etc.

Action: Stimulate movement of the gut by expanding its content with non-digested cellulose.

Side effects: Uncontrolled bowel movement, especially under G.

Enemas: Anyone on DIFOPS orders who gives himself enemas should make an appointment to see the flight surgeon.

Mineral Oil: Essentially just greases the skids and softens the stool.

Side effects: Documented cases of deteriorated night vision caused by interference with vitamin A absorption.

In addition to looking good around the field, we are also interested in looking good around the bar. Many of us supplement our diets with vitamins and, as you would expect, this is basically harmless. However, there is a wealth of "lay" literature about the sexually fortifying effects of vitamin E and the necessity to use "mega" dose vitamins in order to attain ultimate "hard-body" status. This has prompted many aircrews to throw away their Flintstone Chewables in favor of the harder stuff.

Here's the gouge on vitamins. There are two kinds of vitamins: the water soluble and fat soluble vitamins. Both are generally required in relatively small daily doses which can be obtained from any reasonably rounded diet. Since some of us have a tendency to subsist on hot dogs, coffee, candy bars and brew, it's reasonable to take vitamin supplements. Any excess water soluble vitamins (B, C) that are ingested will be passed along to feed the fish in the form of urine. Fat soluble vitamins (A, D, E) will tend to be deposited in fatty tissues if not immediately used. Such tissues most notably include the nervous system.

Too much vitamin A can cause drowsiness, irritability, headache, vomiting, peeling skin, increased pressure around the brain, joint pain, enlarged liver and spleen.

Too much vitamin D can cause nausea, frequent urination, thirst, weakness, nervousness and decreased kidney function.

Generally, it is so hard to overdose with water soluble vitamins that side effects are rarely seen. A noteable exception is the increased likelihood of kidney stones in people taking large doses of vitamin C for long periods.

Any medicines, no matter how apparently benign or readily available, can *have* side effects. For the most part, these side effects would not be life-threatening were it not for the fact that our work puts us in a position where small problems may become killers in short order. ◄

Lt. Lapert is a flight surgeon with VMFA 451.

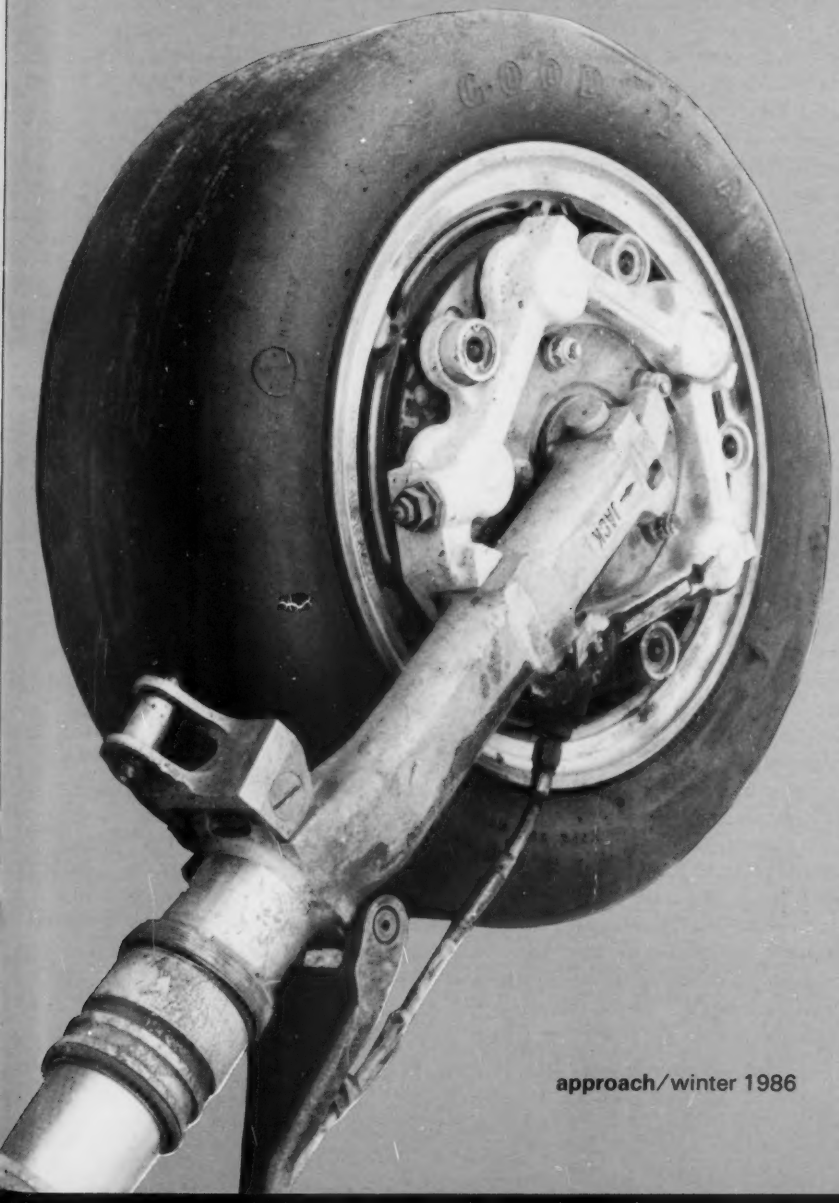
If a flight surgeon recommends grounding a pilot, it is usually for one of two reasons: 1) side effects from required medication or 2) concerns with the disease process itself. Taking a "benign" medication for a cold symptom doesn't cure the cold. It does make you more comfortable at ground level. It does not mean it's OK to fly with that medication. Looking at the side effects of varying drugs is just one slice of a complex issue. For aircrew — don't self-medicate and fly. See a flight surgeon. — Ed.

Almost An Outstanding Pilot

By LCdr. John Schork

SHORTLY after joining my first squadron, I was unfortunate enough to witness a fatal mishap during night FCLPs. The turmoil and grief was just starting to calm down a month later as the squadron deployed to WESTPAC. One night, during a stop in Pearl Harbor, several of us were crying in our beer about the mishap. The squadron maintenance officer, a grizzled veteran of Spads and many cruises, heard us. His advice was "If you stay in this business you will probably see more accidents, but you can't let it tear you up. You just have to sum it up by saying the dumb S.O.B. killed himself." Our reactions ranged from shock to indignation. How could he be so callous about a friend who had just been killed? Well, yes, he did make a bad decision that resulted in the accident, but he didn't mean to.

As the years passed I saw too many more mishaps, most involving fatalities. And even though you always respect the memory of those aviators, in almost every case *the pilot did kill himself.* Flat-hatting, trying to stay VFR in the goo, flying into the ground — the list of pilot-error fatalities goes on and on. The victims weren't bad aviators. In fact, in many cases they were a lot better than many aviators I see everyday. But for one hop, one instant, one decision, they put themselves forever into the "dumb S.O.B." category.



In the never-ending attempt to keep flying safely, our squadron had a safety stand-down, and I related the above story. During the story, I asked how many guys had lost a squadron-mate at any time during their career to a Class "A." *Half* of the crews raised their hands. How do the COs and safety officers reach the other half who have never been through the agony of a fatal mishap? We tried to define the attitude that makes the difference between a smart, professional aviator and "a dumb S.O.B." Some of the major areas in which the right attitude figured were:

Crew Rest — Knowing your limit and sticking to it.

Booze — If you're scheduled to fly the next day, throttle back and be ready at brief time.

Flight Preparation — Know your route, the ROE, weather, NOTAMS and your aircraft, and know them *cold.*

NATOPS — Do it by the numbers in accordance with NATOPS, *all the time.*

Flight Brief — Be thorough, using the briefing guide.

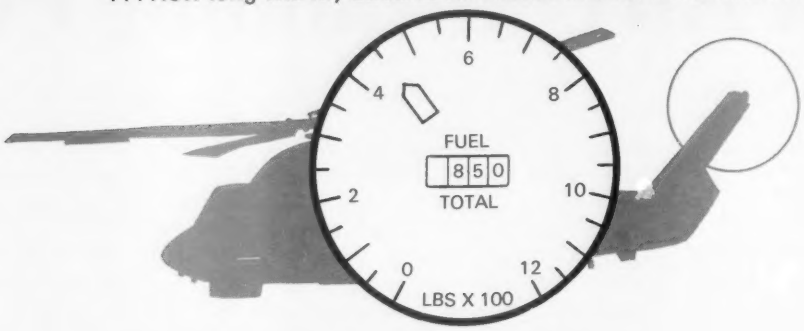
Discipline — To a professional aviator, *self discipline* airborne is essential, you can't give in to the urge to act Sierra Hotel.

Situational Awareness — Aviate first, know where you are and what's going on; if it gets away from you, back off.

Nothing I've said is any great revelation, particularly to the old, grizzled guys (I'm one now). But we are still going to have someone go out and make one last stupid mistake by not having the right attitude. If this makes one guy stop and think, it was worth it. Don't end up another dead dumb pilot. ◄

LCdr. Schork is an A-6 B/N. He has served in VA 128 and VA 165. He is currently serving his second tour in VA 95 as the squadron safety officer.

. . . How long will my buddies talk about this dumb routine . . .



Piece of Cake . . .

By LCdr. Joseph E. Belinski

A Ph.D. in mathematics isn't required to compute how long an aircraft can stay in the air and how far it can go in that time. It is painfully obvious what can happen if you forget to pay attention to the simple time-to-splash formulas.

Another motivation for watching the gas gauge is your professional reputation. We still hear jokes about the last guy who "ran out of gas." One name goes with the stories until some new name replaces it — with the same old story. That would never happen to me.

Sure.

The night EMCON SH-2F mission was briefed with the CIC watch team and the entire flight crew. The mission was two-fold: drop sonobuoys 45 nautical miles in front of the frigates and then attempt to locate the "enemy" high value unit (HVU). Piece of cake. The first part of the mission was easy. However, the HVU skipper wasn't cooperative. No joy on that mission.

"Well, there's about 50 minutes of fuel left. Hey co-pilot, it's night and we are in EMCON. Let's give ourselves a margin of safety and head back to homeplate," I said.

Our TACNAV (dead reckoning mode) indicated that our frigate, which had been closing on us during the entire mission, was about 30 NM away. That's only 15 minutes if we wanted to get there quickly (relatively speaking). The co-pilot gave me the heading, and we were on our way.

The fuel gauge. Time for another check. What was wrong with the fuel gauge? The sump tank was supposed to read a little over 600 pounds. The tank was full during the last fuel check. The fuel pointer was now indicating 500 pounds and still edging downward. Why wasn't my aft tank fuel transferring into the main tank?

No worry, yet. I still had options. And I was a sharp aircraft commander who planned for a little extra time en-route.

"Hey radar operator, give me a bearing and range to homeplate." The distance he called back was extremely bad news. "Nearly 45 nautical miles and they are going away from us, fast." The fuel pointer was now reading 450 pounds, and I was scared to the max. This couldn't be happening to me. The brief was understood by everybody in CIC. The return trip back should have left me with plenty of fuel. Didn't those ship guys know they were supposed to maintain course and speed?

It was then time for some of those applicable emergency procedures. "USS SHIP, we are experiencing some fuel difficulties. Request you break EMCON, energize TACAN and close us with all possible speed."

Am I going to make this one? Boy, is the CO going to be sore! How long will my buddies talk about this dumb routine? Three years? Five years? At least until the next idiot runs out of fuel.

Back to the fuel gauge . . . My eyes had now made this indicator a primary scan instrument. Did I detect a rise, a movement upward? "All right, folks, we are getting good aft tank fuel transfer," I thought. "Your aircraft commander is no longer jello in the seat." The TACAN locked on a few minutes later and confirmed the TACNAV plot. Great news. With renewed confidence I told the radar operator, "Reduce your range and look out on this bearing." The answer came back, "Yes sir, I see the ship now. Don't know why I couldn't pick it up earlier."

The aircraft landed safely. The fuel amount was more than ample, and the crew never even saw the low fuel light illuminate.

My mind recounts those endless naval aviation safety lectures: Accidents are caused by a series of events that occur in a certain progression. If you break that chain, the accident will not occur. These events had been broken in our case. We were lucky.

A slow fuel transfer system and an inaccurate radar contact had caused the crew five minutes of semi-controlled panic. Yes, we had done the preflight and in-flight planning. Yes, my crew were all experts in their jobs. Yes, nothing really happened that night. Nothing, that is, but the realization that if you don't consider possibilities and carefully plan for them, you could requalify on your survival swim a lot sooner than anticipated. Oh by the way, I do those fuel checks a little more often these days. ◄

LCdr. Belinski flies SH-2Fs with HSL 32, based at NAS Norfolk, Va.

It will get you coming or going.

Stand clear of jet intakes and exhausts.

Poster idea contributed by the Safety Department of VA 95 aboard the USS *Enterprise* (CVN 65).

T.F.O.A.•
can be a real pain.
Don't let it happen on your aircraft.

•Things Falling Off Aircraft